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Croonian Lectures

ON

THE NUMERICAL METHOD, AND ITS APPLICATION TO THE SCIENCE AND ART OF MEDICINE.

DELIVERED AT THE ROYAL COLLEGE OF PHYSICIANS, 1860.

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PART VI.

The Recurrence, year by year, of similar Aggregate Numbers, as Representatives of the Number of Births, Deaths, and Marriages, Diseases, and Crimes, and other Social Phenomena. Observations of M. Quetelet of Brussels on Marriages and Deaths in Belgium. Marriage Statistics in England. Statistics of Suicides in England. Striking Uniformity in Results. Serious Inferences drawn by Quetelet from this Order of Facts. His Views adopted by Mr. Buckle in his "History of Civilisation in England". The Question examined by means of a larger and more varied Collection of Facts than has hitherto been used for this purpose. Events dependent on Volition compared with Events from which the Human Will is excluded. The Weather, the Prices of Cereals, Diseases, etc., compared with Crimes and the Disposal of Criminals. Results conflicting; but deliberate Acts shown to issue in Figures marked by greater Steadiness than Acts prompted by Passion. Examples of Low Annual Fluctuation. Students registered at the College of Surgeons. The Consumption of Tobacco and Wine. Our Commercial Shipping. It is not possible to determine the Nature of Forces by the Figures which represent their Action in the Aggregate. Summary of the Principles established. Unconscious Application of the Numerical Method by Ambrose Paré in the Treatment of Gun-shot Wounds.

ONE subject connected with the numerical method, or the logic of large numbers, still remains to be considered. It is one of great interest, and, in some points of view, of great importance. I mean the reproduction, year by year, of the same, or nearly the same, numerical results in respect of births, deaths, and marriages; diseases, and crimes; and, indeed, of most other social phenomena recorded in our blue books and other periodical reports. The first statist who drew attention to this striking phenomenon was, I believe, M. Quetelet of Brussels. An able English statist, Mr. Samuel Brown, has treated of it in an essay published in the eighth number of the *Assurance Magazine*, under the title of "The Uniform Action of the Human Will, as exhibited by its Mean Results on Social Statistics;" and I have myself contributed a considerable body of facts bearing upon the same phenomenon.

I will first place before you some of the facts to which M. Quetelet and Mr. Samuel Brown call attention, and then proceed to examine certain deductions which Quetelet and an English disciple of his have seen fit to draw from them.

The first fact I shall cite is given on the authority of Quetelet. He tells us that from 1825 to 1845, the number of marriages in Belgium was from 28,000 to 29,000 annually, increasing with the population. These numbers happen to correspond very closely with the number of deaths occurring annually in the towns. Now, in the case of the marriages, the extreme numbers, the highest and the lowest, in these twenty years, were 32,680 and 26,117; and, in the case of the deaths, 35,606 and 24,539. So that, in the case of the marriages, there was a difference between the highest and lowest numbers of 6,563, or about 20 per cent.; and in the case of the deaths, a difference of 11,067, or upwards of 30 per cent.

In the case of these Belgian returns, it does not appear that any correction was made for increase of population in the twenty years embraced in the calculation; and, as Quetelet's object was rather to compare the deaths with the marriages, than to view the one or the other as isolated facts, such correction was not needed. But, in the facts which I am now about to adduce, this correction is made. The facts are taken from the eighth, ninth, and tenth Reports of the Registrar-General.

I will first give you the numbers of men and women annually married in England and Wales, out of 50,000 men and 50,000 women living in each of the six years from 1839 to 1844 inclusive. They were as follows:—1589, 1561, 1539, 1472, 1515, 1597. The greatest number in any year was 1597; the least, 1472; and the difference between them is only 125, or less than 8 per cent. of the greatest number.

If, again, we take the number of marriages occurring in 100,000 females living, in averages of 10 years from 1796 to 1836, we have the following general results:—Greatest average in any 10 years of the five decimal periods, 1716; least average, 1533; difference, 183, or about 10 per cent. of the greatest average.

Or lastly (for these three leading facts relating to marriages must suffice), let us take the proportion of females married under 21, in the 6 years 1841 to 1846 inclusive, reduced also to a scale of 100,000; and we find that the greatest proportion married under age in any of the 6 years is 13,730, and the least proportion 13,160, between which two numbers we have a difference of only 570, or about 4 per cent. of the greatest of the two numbers.

Thus we have here three orders of facts relating to the same subject—marriages as they occur in England; and in no one of them (they all embrace five or six years, or averages of years) does the per centage variation, from extreme to extreme, exceed 10 per cent., and in one of them it is as low as 4 per cent.

One more fact relating to suicides will suffice for the present. The suicides ascertained to have happened in London in the five years 1846 to 1850 inclusive were as follows:—Among females, 97, 84, 72, 69, 70; among males, 169, 172, 175, 144, 159. Greatest number of females, 97; least number, 69; difference, 28: greatest number of males, 175; least number, 144; difference, 31; being about 29 per cent. in the case of females, and about 18 per cent. in the case of males. For three successive years, in both sexes, the difference is very slight: in females, in the last three of the series, 72, 69, and 70; in males, in the first three, 169, 172, 175.

From this instance, then, it appears that, both for males and females, there is a peculiar but similar suicide-rate year by year. But as, in this case, the facts are far from numerous, the fluctuations are, as we should expect, proportionably high:—Instead of 10 to 4 per cent. in the case of marriages counting by the 10,000, from 29 to 18 per cent. in the case of suicides counting by the 100; but in both cases there is the same curious recurrence of similar figures year by year.

I may add, that no fact is better ascertained than the similarity of the numbers which year by year represent any well defined fact in social history. For example, in this very case of suicide, not only is there a great similarity in the number of suicides year by year, in the same population, and in the two sexes, but also a very curious uniformity in the instruments which are used to effect them.

So much, then, for the facts. Let me now call your attention very earnestly and seriously to the inferences which have been drawn from them.

Quetelet, who, as I have said, was the first to draw attention to the broad fact of the recurrence year by year of similar figures, as representing facts in social history or science, was also the first to take notice of the still more curious fact that events, such as marriages, brought about to a large extent by human volition, shared with events such as natural deaths, brought about by unconscious forces, this same property of reproduction in nearly equal aggregate numbers year by year.

Thus he observes, in reference to the first facts which I quoted (those relating to marriages and deaths in Belgium), "Cependant, on ne se consulte pas pour mourir, comme on le fait pour se marier." In other words, death is involuntary, and marriage a voluntary act; and yet there is greater fluctuation in the number of deaths than in the number of marriages.

Now, this same steadiness observable in the aggregate of events brought to pass by the agency of the human will, is also to be observed in the same order of facts when compared with such events as are wholly independent of human volition; and Quetelet invites attention particularly to the close resemblance of the curves which represent the development of the human stature and weight to those which display the number of crimes committed at the corresponding ages. Taking a large and broad view of all his facts, he gives vent to his feelings about them in these words:—"It must be confessed that, distressing as the truth at first appears, if we submit to a well followed out series of observations the physical world and the social system, it would be difficult to decide in respect to which of the two the acting causes produce their effects with most regularity."

After thus stating that the truth which he was propounding appeared at first sight distressing (*affligeant* is the word he uses), we might naturally have expected that some attempt would have been made to give comfort to such of his many readers as might chance to take the painful fact to heart; but so far is this from being the case, that he elsewhere expresses himself in terms calculated to make most men shudder. He actually tells us that experience demonstrates, "avec toute l'evidence possible", that "it is society which prepares the crime, and that the criminal is only the instrument that carries it into execution".

These dangerous sentiments have, I am sorry to say, been recently adopted, and even amplified, by an English author of learning and repute, in his *History of Civilisation in England*. Mr. Buckle, after raising a very useless question as to whether consciousness is *a faculty*, or merely *a state or condition* of the mind, and asserting that, if it be a faculty, it is an extremely fallible one—an assertion which would be equally true of any of our external senses,—proceeds to treat *freedom of the will* as a mere *opinion;* human actions as determined by motives which are the necessary results of certain antecedents; and the fluctuating number of good and bad actions as "the result of large and general causes, which, working upon the aggregate of society, must produce certain consequences, without regard to the volition of those particular men of whom the society is composed". After these preliminary statements of opinion, the full and complete adoption of M. Quetelet's dangerous views by Mr. Buckle cannot surprise us. That I may not be supposed to misrepresent him, I will quote his very words, from pp. 25 and 27 of his Introduction. Speaking of *suicide*, he says that "all the evidence we possess respecting it points to one great conclusion"—"that suicide is merely the product of the general condition of society, and that the individual felon only carries into effect what is a necessary consequence of preceding circumstances"; and, again, speaking of crimes generally, "that the offences of men are the result not so much of the vices of the individual offender, as of the state of society into which that individual is thrown".

Now, I should not have asked you to entertain a question of morals in this place, if it were not that these opinions, striking, as I think they do, at the root of all morality and of social order and security, are professedly built up upon one of the most curious and interesting phenomena of the numerical method. I am happy to say that, in examining the validity of these opinions, I shall incidentally be dealing with facts in which, as medical men, we are all interested.

I will begin by asking your attention to the facts upon which these opinions are based; and then to the opinions themselves.

And first of the facts. These are, in the main, correctly stated, though they have been generally treated, both at home and abroad, in a superficial and somewhat unsatisfactory manner. I will endeavour to give you a larger and more complete view of them.

Let me first explain a term which I am about to use—the term *average or mean fluctuation*. It is "the quotient obtained by dividing the sum of all the successive differences between year and year by the number of those differences, and then reducing that quotient to a percentage proportion of the average of all the years." Now, the first general principle which I will lay down (by aid of this mean fluctuation) is this—that the rate of fluctuation diminishes as the number of facts increases. This principle is, as it were, clearly displayed in the results of a comparison which I have made between the same orders of facts in England and Wales and in London respectively.

In England and Wales, with the larger number of facts, the births fluctuate as 2.01; and in London, with the smaller number of facts, as 1.95. The difference is here insignificant, and the fluctuation is largest where the facts are most numerous. But the marriages, which fluctuate as 3.29 in England, fluctuate as 3.75 in London; and the deaths, which fluctuate as 5.57 in England, fluctuate as 9.51 in London. So with special causes of death. As a general rule, the fluctuation is less for England than for London. Out of ten leading causes of death, there is only one (measles) in which the fluctuation is at a higher rate for England than for the metropolis. I will give the facts in the nine other cases in a tabular form and in round numbers.

Fluctuations.

	London.	England.
Scarlatina	46	20
Hooping-cough	32	18
Typhus	20	10
Phthisis	6	6
Bronchitis and Asthma	15	11
Cancer	5	3
Apoplexy	6	3
Delirium Tremens	12	5
Violence, Privation, etc.	8	3

Cæteris paribus, then, the annual fluctuation is greater or less, as the number of facts is less or greater. The more the facts, the less the fluctuation.

Having established this principle as a necessary preliminary, I proceed to develope the broad facts bearing on the question we are considering, by the aid of equal, or nearly equal, groups of facts placed in juxtaposition. I hope, by comparing in this manner events wholly independent of human volition, or only remotely influenced by it, with events brought about by the operation of the will, to ascertain which of the two betrays most uniformity and steadiness.

As examples of events wholly independent of the will, or only remotely influenced by acts of volition, I will take the number of deaths from special diseases; and, as examples of voluntary acts, crimes and the disposal of criminals. Let it be understood that, in making this comparison, I am taking equal numbers and equal periods of time, and the same limits of space. I will not complicate matters by stating the numbers of facts, or the terms of years, or the place. I find, then, that when involuntary and voluntary acts are thus rigidly contrasted, we get such results as the following:—

Deaths from all causes present an annual fluctuation expressed by the figure 10; and cases summarily disposed of, or held to bail, by the figure 5.

Deaths in the northern districts of London, an annual fluctuation of 6; persons committed to trial, a fluctuation of 8.

Deaths in the west districts, fluctuation 9; convictions and sentences, 8.

Deaths from diarrhœa fluctuate as 30; persons acquitted, as 10. Deaths from inflammation of the brain have the low annual fluctuation of 5; while the police cases in which bills were not found, or the accused were not prosecuted, fluctuated as 13.

I will add from the same table a comparison of births, on which the influence of human volition is but remote and slight, with the aggregate of cases discharged by the magistrate. The births fluctuate as 2, and the discharges as 4.

Taking these six comparisons together, it appears that *three* of them display a higher rate of fluctuation in events beyond the influence of the will; while three of them yield exactly the opposite result.

I now proceed to a similar comparison of deaths with crimes, and their treatment by the magistrate, for a longer term of years. The facts are as follows:—

Deaths attributed to asthma.	Fluctuation	16	1
Offences against the person	„	14	
Sudden deaths	„	18	2
Offences against property with violence	„	13	
Deaths from diseases of the liver	„	5	3
Forgery and offences against the currency	„	22	
Deaths in west districts of London	„	14	4
Offences against property without violence	„	6	
Deaths from diseases of the organs of respiration	„	11	5
Convictions and sentences	„	7	
Deaths from all causes	„	16	6
Summarily disposed of, or held to bail	„	3	

Deaths in northern districts of London	„	5	7
Commitments	„	7	
Deaths from hydrocephalus	„	6	8
Acquitted	„	9	
Deaths from erysipelas	„	17	9
Bills not found or not prosecuted	„	13	

Putting all these nine comparisons into one category, and comparing the rates of fluctuation, we arrive at this result: that in six instances, the events not under the influence of volition, display greater fluctuations than those mainly brought about by volition and deliberation; while in three instances, the reverse obtains.

I will ask your attention to the results of only one more tabular comparison of the same class.

Deaths from purpura and scurvy.	Fluctuated as	6	1
Malicious offences against property	„	23	
Deaths from mortification	„	7	2
Offences against the Mutiny Act	„	20	
Deaths from diseases of the spleen	„	14	3
Sentenced to death	„	18	
Deaths through malformations	„	5	4
Miscellaneous offences	„	18	
Deaths from erysipelas	„	9	5
Offences against the person	„	10	
Deaths from scarlatina	„	20	6
Committed to the same prison once	„	8	
Deaths from dropsy	„	4	7
Remanded and discharged	„	7	
Deaths from hooping-cough	„	18	8
Debtors and civil process	„	6	
Deaths from age	„	5	9
Commitments	„	5	
Deaths from measles	„	34	10
Committed to same prison twice	„	5	
Deaths from pneumonia	„	5	11
Offences against property without violence	„	3	

There are here eleven comparisons, of which one presents an equal fluctuation in the events compared, leaving ten comparisons in which the rates of fluctuation differ. Well! of these ten instances, four are cases in which the event independent of volition shows greater fluctuation than the event brought about by volition and deliberation—the volition of the accused and the deliberation of the judge; while six cases yield an opposite result.

If we take the three orders of facts together, we arrive at this general result: that in thirteen cases the events uninfluenced directly by the human will show more fluctuation from year to year than those which are the result of volition and deliberation, while twelve cases show an opposite result.

The balance being thus evenly struck when we compare disease with crime, I must ask you to bear with me while I extend the comparison of the two orders of events by substituting for disease events or circumstances still less influenced by human volition. I will take the three elements of the weather—the mean annual temperature of the air in tenths of degrees, the annual rain-fall in tenths of inches, and the horizontal movement of the air in miles; and I will contrast these facts, wholly uninfluenced as they are by the human will, with events relating to crime and criminals, summed up in an equal number of units.

The mean annual temperature of the air in fifteen years.	Fluctuated as	2	1
The number of acquittals	„	10	
The annual rain-fall	„	29	2
Bills not found or not prosecuted	„	13	
Horizontal movement of the air	„	14	3
Acquittals	„	9	

Of these three instances, one displays a higher rate of fluctuation for the voluntary acts; the other two a higher rate for the wholly involuntary phenomenon.

My next comparison will be between the prices of the cereals —wheat, barley, and oats, as being greatly dependent on causes beyond human volition, and crimes with their treatment. The prices are given in pence, the unit of a penny being compared with the voluntary or deliberative act as a unit. The following are the results:—

Price of wheat	Fluctuation	13	1
Miscellaneous offences	„	18	
Forgery, etc.	„	8	
Price of barley	„	14¼	2
Offences against the person	„	13¾	
Price of oats	„	20	3
Malicious offences against property	„	23	

These three comparisons yield a negative result; for in the case of the price of wheat, the two events compared with it neutralise each other; and of the remaining two comparisons, one shows a higher rate of fluctuation for the involuntary event, the other for the voluntary.

If now I range on the one side the three orders of facts least influenced, if influenced at all, by human volition, and on the other, the several voluntary and deliberate acts in which criminals or accused persons, on the one hand, and the magistracy on the other, play their part, I arrive at this result, that in sixteen instances the involuntary events show a greater fluctuation than the voluntary acts; and in fourteen cases the reverse obtains.

As far then as these careful and exact comparisons go, they justify us in stating that events brought about by human volition recur year by year with at least as much regularity as those in which human volition plays no part at all, or is only remotely influential in bringing the event to pass.

Up to this point, then, the statements of Quetelet, as adopted by Buckle, are fully borne out by the most rigid and exact comparison of which the facts in question are susceptible; nor are those statements subject to any material modification, if, disregarding the number of the facts, we compare the limits of fluctuation of different groups of facts.

The wholly involuntary elements of the weather show a range of fluctuation from 2½ for the temperature to 28½ for the rain-fall. The prices of cereals, depending in part on the weather, and in part on a multitude of acts of human volition, have a range of fluctuation from 13 to 20. The deaths by 15 classes, and 8 special causes of disease, in which human volition is only remotely influential, and not exercised with the intention of bringing about the result, have ranges of fluctuation, respectively, of from 3 to 34, and 3½ to 31. Six deliberate acts of magisterial discretion, in disposing of offenders, yield a range of fluctuation of 3 to 12; while 6 classes of offences, in which the human will acts with less deliberation, range from 5 to 22. The voluntary act of marriage occupies an intermediate place, with a fluctuation of 3½ per cent., between births with a fluctuation of 2 and deaths of 5½ per cent. These figures are for England. Lastly, it is worthy of remark, that the maximum and minimum prices of consols, and of the leading public securities, determined, like births, deaths, and marriages, by an infinite number of causes, and, like marriages, by an immense number of individual acts of volition, have the narrow range of fluctuation of 3 to 6.

The facts which I have just laid before you form but a small portion of those which I submitted to the Statistical Society two years ago. I have again studied those facts very carefully; and I think that I find in them a warrant for an opinion which, if really well founded, goes far to place the question raised by Quetelet and Mr. Buckle in a new light.

In the first place, as a general rule, I find the fluctuations in deaths, from special diseases, in conformity with our knowledge as medical men. I find every degree of fluctuation, from the minimum of 3½ per cent. in the most steady of all the causes of death (diseases of the brain and nervous system) up to the maximum of 154 per cent. in the case of the least steady of all (cholera). The highest rates of fluctuation belong to epidemic and contagious maladies; an intermediate rate to diseases of the organs of respiration; and the lowest rates to local diseases, especially to those which depend, like consumption and cancer, on structural degeneracy. A low place, but not the lowest, is occupied by deaths from violence and privation. One other remarkable fact in reference to death by disease is, that the rate of fluctuation in the class of zymotic maladies not only exceeds the rate in all other classes of disease, but also that which prevails in any other order of facts whatever. So that it is no longer true that the weather must be looked upon as the very type of changeableness. The real type is to be found in the diseases which arise out of the influence of this variable, the weather, on a second variable, the human body.

Let me again draw attention to the fact that the causes of death most dependent on the exercise of volition—death by violence, privation, etc.—show great steadiness, though they are surpassed in this respect by several local diseases. This fact tends to raise the question whether the introduction of human volition among the causes which determine a given event does not always tend to steadiness and freedom from fluctuation?

If we compare disease and crime, we certainly receive one affirmative answer; for there is a much wider range of fluctuation in deaths from special diseases than in crimes of different

kinds. The physical world, in this important aspect of it, is certainly less steady than the moral world.

If, again, we consult the miscellaneous events and facts brought together in one of the tables submitted to the Statistical Society, December 1857, we find this attribute of steadiness to belong to a great variety of events and facts determined by human volition.

The introduction, then, of the human will as a factor among the many causes which combine to bring about events in social science, tends to bring about steadiness—to limit annual fluctuations.

But I think that I can go a step farther than this. I think I can show that where the human will is set in motion as the result of thought and deliberation, and not of mere passionate impulse, steadiness is the result. Thus if we compare crimes, in which the human will acts under the instigation of passion, with the disposal of criminals in the police court or at sessions, which is the result of deliberation, we find the crimes fluctuating between the numbers 5¼ and 22, while the discretionary acts of the magistrate range between the figures 3¼ and 12¼. That is to say that deliberate acts issue in figures showing greater steadiness than acts prompted by passion.

Now I find this very important view confirmed by many cases of low fluctuation. The lowest rate of fluctuation, for instance, which I find in any of my tables is that which takes place in the number of students annually registered at the College of Surgeons. The next lowest is the fluctuation in the quantity of manufactured tobacco taken for home consumption—a quantity determined by an infinite number of single acts of volition, themselves the result of habits repeating themselves day by day without excitement. The annual consumption of wine, and the vessels which carry on our commerce at the deliberate bidding of the merchant, show similar steadiness. So also do marriages, which, though in part the result of passionate attachments, do not take place without grave acts of deliberation on the part of parents. The chief elements of fluctuation in them, when we take into account the whole mass of the people, is the price of food; but the deliberations which precede the marriages are the elements of steadiness.

The antidote to Quetelet's dangerous opinions, as adopted and amplified by Mr. Buckle, seems then to be supplied to us in the simple statement of the fact that the human will, when introduced as a factor among the many causes which contribute to bring about any social phenomenon, is a cause of steadiness; and that this is especially the case when the human will acts after due deliberation. Those who believe in the existence of a free will in man, could not desire a better illustration of its workings, on the large scale, than the fact I now state. If, as a general rule, unconscious forces, taken one with another, and in variable combinations, bring about events characterised by large annual fluctuations; and the introduction among such forces of the human will acting under the instigation of passion, and ending in detected crime, gives rise to a certain degree of steadinesss; but the human will acting with deliberation, and in obedience to law, to a greater degree of steadiness; then, I submit, that there is no justification whatever for the misgivings and openly-expressed scepticism of Quetelet, or of those whom he has been the means of leading into error.

The views of Quetelet, and of his admirers, might have been met by the simple allegation that numerical results do not, and cannot, give us any clue to the nature or intensity of the causes by which they are brought about. The only salient point which any annual returns present is the greater or less steadiness—the greater or less freedom from fluctuation to which I have just adverted. That our figures do not of themselves give us any clue to the nature or intensity of the causes or forces by which the facts or events they represent were brought about, I think that I can prove to you by a very simple experiment.

I abstracted from the out-patient books of King's College Hospital the consumptive and non-consumptive patients, in groups of 50, up to the number of 5,000. Of this aggregate of 5,000, 172 proved to be cases of consumption, and 4,828 of other diseases. I represented the cases of consumption by white peas, and other diseases by black ones; these I put in a bag, and, after mixing them well together, proceeded to draw them out, blindfold, by fifties; and noted down the result. I repeated this experiment, and I found that between the attendances of these two classes of patients at the hospital, determined as they must have been by a great variety of motives, and the drawings of the white and black balls, effected by variable combinations of very trivial forces, there were several very remarkable coincidences. The figures were nearly the same, but the forces totally different in kind. Now, if these concurrent forces, so contrasted in character, and so different in intensity, may find their ultimate expression in very nearly the same figures, what ground can there be for inferring from near equality in numbers, or similarity in annual recurrence of figures, identity of character? and yet such an inference as this must have lain at the root of Quetelet's painful misgivings and dangerous assertions.

I trust that I have said enough upon this subject. I will now briefly apply to the science and art of medicine what I said in my last lecture of sciences and arts generally, and finish this lecture and course by a short history of a great discovery in surgery, from which I will draw one or two brief inferences.

1. The numerical method admits of most useful application whenever we can reapply the results obtained from a considerable body of facts to a similar large body of facts of the same order.

2. The average results which we obtain from large numbers of facts, as well as the extreme values, are as useful, for all purposes of comparison and reasoning, as any other ascertained truths, whatever the shape which they assume.

3. The numerical method admits of very limited use in actual practice. Average results cannot be safely applied to individual cases, and extreme results rarely come into play.

4. The numerical method is to be commended as contributing to precision, accuracy, and truthfulness.

5. Average results obtained from small bodies of facts may be employed with advantage to test and refute opinions carelessly adopted and rashly propounded; to establish new truths when the figures exhibit in themselves great uniformity, or when compared with similar small collections of facts, if the numerical results are widely divergent; and lastly, to indicate probabilities to be afterwards confirmed or invalidated by more extensive induction.

I see that there is just time enough, within the hour, to give you my promised surgical history, and to add a very few words of comment.

In the year of our Lord 1536, Ambrose Paré served as surgeon to a French army relieving Turin. In one of the battles in which this army was engaged, there were many wounded with all sorts of weapons, but chiefly with bullets. Now Ambrose Paré, after confessing that he was at that time a novice in surgery, tells us that he had read in *John de Vigo* (who seems to have been the great surgical authority in those days) that gun-shot wounds being poisoned by the gunpowder, it "was expedient to burn or cauterise them with oil of elders, scalding hot, with a little treacle mixed therewith." Knowing that caustics could not be poured into wounds without causing excessive pain, and having his doubts about the proper treatment, Ambrose Paré determined to see whether other army surgeons dressed these wounds in any other manner. But he found that they all used "that method of dressing which Vigo prescribes; and that they filled, as full as they could, the wounds made by gun-shot with tents and pledgets dipped in this scalding oil, at the first dressing." This determined Paré to adopt the same treatment. But "it chanced on a time," as he tells us, "that by reason of the multitude that were hurt, he wanted this oil; and because there were some few left to be dressed, he was forced, that he might seem to want nothing, and that he might not leave them undressed, to apply a digestive made of the yelk of an egg, oil of roses, and turpentine." I will give you the result in his own words:—"I could not sleep all that night, for I was troubled in mind, and the dressing of the precedent day (which I judged unfit) troubled my thoughts; and I feared that the next day I should find them dead, or at the point of death, by the poison of the wounds, which I had not dressed with the scalding oil. Therefore, I rose early in the morning; I visited my patients, and, beyond expectation, I found such as I had dressed with the digestive only, free from vehemency of pain, to have had good rest, and that their wounds were not inflamed nor tumefied; but, on the contrary, the others that were burnt with the scalding oil were feverish, tormented with much pain, and the parts about their wounds were swollen. When I had many times tried this in divers others, I thought thus much, that neither I nor any other should ever cauterise any wounded with gun-shot."

In this striking passage of the life of the great French surgeon, we have, as I think, an apt illustration of the unconscious application of the numerical method, and of the logic of observation, a quarter of a century before Bacon was born, and more than two centuries before a numerical method was thought of. Here were two sets of facts differing only in the

one point of the method of treatment accidentally adopted—on the one side only *some few* that were left to be dressed, on the other the multitude of wounded, less this small number; but the small number, in virtue of the uniformity of result satisfying the mind of this acute and truly logical observer, and leading him to the safe conclusion which his subsequent experience amply confirmed.

This, I repeat, is an unconscious illustration of the value of that numerical method which I have endeavoured to set before you, to explain, and to vindicate, in these three lectures.

Lettsomian Lectures

ON

THE OPHTHALMOSCOPE AND ITS APPLICATION.

DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON.

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Lecture II.

Mr. President and Gentlemen,—Allow me a very brief recapitulation of a few of the subjects that occupied my last lecture. I shewed that Mr. Cumming had made no practical use of his discovery of illuminating the eye, not having even succeeded in complete illumination; that an instrument was needed to throw the light into the eye, and at the same time to admit of our seeing distinctly, which, under circumstances, might be used alone, especially when a near sighted eye was examined, but that for the most part a lens was required in addition; that, as soon as the interior of the eye receives the light, a red glare is visible, and that the visual focus of the observer is not got till the individual parts of the fundus of the eye, the optic disc, and the retinal vessels, come into view; that the optic disc is the termination of the optic nerve; that the retina is recognised by its vessels, being ordinarily unseen from its transparency; that the choroid chiefly gives the glare to the lightened eye, its individual vessels not being discernible in health, but the larger vascular plexuses recognised by markings, which are seen in contrast to their interspaces, which are darker, because containing more choroidal pigment. I shewed too that the retinal vessels, uncertain in number, enter the eye through the optic disc, sometimes centrally, sometimes at the side; and that there is great variety in the natural, or physiological, or healthy eye, with which it is necessary to be acquainted.

I proceed now to diseased states; and commence with *Cataract*. Few surgeons, I suspect, have long been engaged in active duty without being aware of the difficulty attendant on the diagnosis of incipient cataract. Doubtless, the majority of my hearers know this. Nor is it the general surgeon only who may be so puzzled. From my own personal knowledge, such men as Tyrrell and Dalrymple were deceived, as the progress of cases shewed. It would be easy for me to adduce parallel examples occurring among living practitioners. Indeed, till the ophthalmoscope appeared, we were necessarily often in difficulty; and no one felt this more than myself, as the means at our disposal—the catoptric test and the concentrated light—were not enough. It was especially so in old age, when the natural coloration of the lens, the amber hue existed, and particularly when it was unusually developed, for then streaks of opacity at the back of the crystalline lens, or general haziness of this body, were easily overlooked. The coloration itself was liable to be mistaken for disease, when there coexisted impaired vision from any cause.

A wine-merchant was assured by a gentleman engaged in ophthalmic practice in this metropolis, that he had cataract. An operation was proposed, and consented to. The chloroformist was even named. I was consulted, in order to satisfy some friends. I found the lenses very highly coloured, but not opaque, for I could see distinctly all the fundus of the eye. Much hepatic derangement with a very debilitated system seemed to be the cause of defective sight, and a few weeks treatment confirmed the diagnosis I had given.

Whenever, therefore, there is a suspicion of cataract, an ophthalmic investigation should be instituted. A less intense light than ordinarily employed, is preferable, because it is possible here to over illuminate the eye, and the striæ may not be seen. With very high illumination, opacities may be less apparent than without the ophthalmoscope. It is on this account too that the eye should be examined at first without the lens. A source of fallacy must here be guarded against. The dots of pigment that are so often seen on the capsule of the lens as the result of inflammatory attacks, by which the iris and the capsule have been brought into apposition, as also cicatrices or spots on the cornea, must not be mistaken for cataract opacities. It is enough to direct attention to this point to prevent that mistake. Positively, cataract may now be detected before a person is himself aware of it.

A lady applied to me for defective sight in the left eye. I had little doubt that I saw radiating striæ in her lens; but to be quite sure, I used the ophthalmoscope, and had the fullest evidence of cataract. I looked at the other eye, and discovered a few small and irregular linear opacities, which I had not seen in my naked eye examination. I was told, in answer to my questions, that that eye was quite well, and vision was not impaired; yet I found by some delicate visual tests, that there was not perfect sight, but the derangement was so trifling, that it had not been noticed. I thought this a great triumph of modern science.

It is of no small diagnostic value to have a correct idea of the condition of the interior of the eye in cataract, to ascertain whether the loss of sight is in proportion to the degree of the opacity, and, in fact, depends on it, or on a more extended diseased state. We can get this knowledge by no other means. Do not considerations like these warrant an often repeated assertion of mine, that for what we have gained in this respect alone, the ophthalmoscope is of immense value; and if we went no further, might be truthfully considered amongst the greatest additions to recent ophthalmology.

Another condition of the crystalline lens can be learned only in the recent state by illumination; I mean, *Partial Dislocation of this body backwards, or twisting out of its place by direct violence.* This may be palpable later when the opacity has pervaded the lens, but certainly not by any ordinary means till then.

Disease of the *Vitreous Humour* seems to cause more astonishment to an inexperienced observer than any other morbid changes; partly, I suppose, because any physical alteration apart from greater fluidity was never supposed, and because the moving about of shreds and granules, and flakes and threads, are such palpable and material things. We now know that this body, which certainly is of low organisation, since it is often very rudely treated in certain operations, and portions of it is lost with apparent impunity, does become materially altered, partaking of disease that invades the eyeball generally. Apparently, at times, it is the sole seat of morbid phenomena, which are great impediments to vision. This is quite new to us; and no speculation, guessing, conjecture, or indication, brought it within the range of probability. In inflammations of the eyeball in general, it mostly becomes opaque, and looks muddy, and more or less hides, as in a fog, the fundus of the eye. Careful examination generally discovers minute bodies in constant motion. I have seen opacity of it, in the greatest degree, without any other symptom that I could detect, or any cause; and some cases that seemed quite hopeless, from the degree of turbidity, and the corresponding loss of sight, and the absence of all indication for treatment, have got quite well. So frequently have I seen the cloudiness pass away entirely in acute specific inflammations of syphilis and rheumatism, even where there were floating patches and filaments, which we call exudations, that I have little prognostic dread of it, as compared with cloudiness unaccompanied by acute disease.

Floating objects are not uncommon in the vitreous humour while its transparency remains; and they may exist alone, or in connection with diseases of the retina or the choroid coats. These are generally seen by the individuals themselves, and are often the circumstances that induce them to apply for relief. This brings me to speak of muscæ volitantes, in connection with the internal ocular inspection, and that only. I think that any one who has studied the writings of Sir D. Brewster, and the masterly essay of Dr. Mackenzie, himself a sufferer from muscæ, or investigated the subject with pains and care, cannot fail to conclude that they are minute floating

bodies in the eye that cast their shadows on the retina, and that they are far back in the posterior part of the eye, almost in contact with the retina. As a consequence, this upsets the theory of pressure on the retina by varicose vessels causing them; but it does not invalidate the supposition that certain parts of the retina may be so pressed on, and rendered insensible, causing the loss of function to be manifested in fixed spots, or black disc that have not the motion, and other characters of muscæ.

I have not, so far as I remember, been able to detect moving bodies in the vitreous humour; but, in connection with other internal disease of the eyeball or defect of sight, I suspect that ordinary muscæ are too minute to be seen with the ophthalmoscope. It is becoming a prevalent idea that they may always be found if looked for. It is a fact which cannot be accounted for, that floating bodies in the vitreous humour are not always seen by a person, and that the perception of them varies.

Effusion of Blood in the Vitreous Humour is another newly recognised state. It is most threatening when extensive, because vision is quite obscured, and the eye to all appearance lost. It is nearly always impossible to trace the source; but, I presume, it must generally be from retinal vessels. It may be traumatic or idiopathic. The first is the rarer, and the amount of hæmorrhage bears no direct relation to the severity of the accident; a mere tap on the eyeball may produce as much internal bleeding as a smart stroke; and I shall presently shew that a blow about the region of the eye only, may cause intraocular hæmorrhage. The second, the idiopathic variety, may, like the first, be unaccompanied by any external sign whatever; indeed, only now and then is there associated redness of the surface of the eyeball. The subjective symptoms, by no means always present, are flashes, corruscations, combinations of colour, and spectra. The actual condition, therefore, the diagnosis, cannot be known, except by the ophthalmoscope. In partial effusion the clot may be seen in the always more or less hazy vitreous humour. But the whole of the interior of the eye may be so darkened that no illumination can be obtained. I do not know how much blood is needed for this. Among the idiopathic cases the worst have occurred in eyeballs long subject to chronic inflammation, and the hæmorrhage has quite destroyed the sight. Two of my patients lost their eyes in this way in the night. I have known recovery ensue many times when there has been so much effused, that I could not illuminate the eye; and I do not give a decidedly unfavourable prognosis, except there preexisted disease of the eyeball.

In the first case that I met with, I suspected the eye to be lost, but complete recovery ensued. A gentleman in good health and with, as he thought, perfect eyes, perceived large soot-like bodies floating before the left eye. There were occasionally coloured clouds. He at once came to me. In a cloudy vitreous humour I saw the extravasation. There was no other objective symptom. I saw him two days after, and the vitreous humour was quite obscured. At the end of five weeks he could read any type, but was a little interrupted by some floating shreds in the vitreous humour, temporarily obscuring the type. A few weeks later his sight was quite restored, and I could not detect any abnormal ophthalmoscopic appearance whatever.

I will give the particulars of another case that occurred in the practice of my colleague, Mr. Taylor, and closely watched by him. Through his kindness, I saw the patient twice.

Mr. C., an artist, aged 30, applied to me for advice last February. A few mornings previously, on commencing work, he found that the sight of the right eye was obscured, to use his own words, "by various forms of dense matter, like those produced by blood dropped in water, or wreaths of blood coloured smoke, the denser parts of which, when looked at against a strong light, appeared of a brilliant brown red." About two-thirds of the field of vision were totally obscured, the lower third being of a pale green colour, through which he could discern objects "with tolerable distinctness". During the following two days, the obscuration extended over almost the whole field of vision, and the colour of the wreaths deepened to black centrally. His written description was accompanied by a beautifully executed water-colour drawing of the spectrum. Though his health is generally pretty good, yet at the time his strength was rather reduced by over-work at his profession; he had had several slight attacks of bleeding at the nose, and had a bad cold and cough. The external appearance of the eye was perfectly natural. With the ophthalmoscope it was impossible to distinguish the fundus of the eye, the vitreous humour being of a dense grey or smoke colour; here and there only a faint red tinge could be perceived. As the eye moved, numerous small spots and filaments were seen floating across the pupil. In about three weeks the optic disc could be seen dimly, as through a fog; soon after, the retinal vessels could be distinctly traced, and a small dark red spot, the source of the hæmorrhage, was seen on one side. The improvement was now rapid; and a little more than two months from the seizure, the sight of the eye was completely restored, though it was apt to become dim after a few hours work; and a few floating filaments could still be seen in the vitreous humour with the ophthalmoscope.

[*To be continued.*]

Original Communications.

SCROFULOUS DISEASES OF THE EXTERNAL LYMPHATIC GLANDS:

THEIR NATURE, VARIETY, AND TREATMENT.

By P. C. Price, Esq., Surgeon to the Great Northern Hospital; the Metropolitan Infirmary for Scrofulous Children at Margate; etc.

I.—Inflammatory Conditions of the External Lymphatic Glands in Scrofulous Subjects.

[*Continued from page 578.*]

Simple Subacute and Chronic Inflammation. Inflammation of a low insidious form, attacking the external and internal lymphatic glands in scrofulous constitutions, is of frequent occurrence at all periods of life. In many particulars, it differs from the more active inflammatory lesions which were lately described. It is met with both as a primary and secondary affection, furnishing, I believe, the greatest proportion of so-called transitory *scrofulous swellings* of the neck, abdomen, and other parts; and may be most advantageously considered under the following heads:—

Firstly. When it occurs as a specific affection, and is apparently confined to the lymphatic ganglia situated on the external surface of the body.

Secondly. When it involves the external glands, as a consequence or accompaniment of various scrofulous affections.

Thirdly. When it affects internal lymphatic glands, such as those of the intestine, mesentery, etc.

The former two divisions of the subject will be now considered; the latter meeting with attention at some future time, when discussing the various abnormal conditions of those glands which are situated within the cavities of the body.

1. All the absorbent glands situated on the exterior surface of the body exhibit a greater or lesser tendency to assume certain specific forms of slow limited inflammatory action; and, although such conditions are not always the direct result or accompaniments of a well marked scrofulous diathesis, still they are very frequently closely associated with some such constitutional taint. When a merely simple, slight inflammatory enlargement of the absorbent glands occurs without any very apparent complication, and with little or no distress, either local or general, it is not always easy to decide whether the derangement is the direct result of external agencies, an inherent disposition to disease, or systemic irregularity.

Some authorities have doubted the possibility of the absorbent glands becoming idiopathically affected. The late Professor Thomson of Edinburgh believed that all chronic inflammatory swellings of the lymphatic glands in scrofulous subjects were symptomatic, and arose from irritation in parts not glandular. On the other hand, Dr. Henning strongly maintained that atmospheric irregularities were, if not the sole, at least the chief sources of derangement of the glandular system, which was *always* the primary seat of scrofula; and that, if other parts of the body were affected, it was but as a consequence. Cullen and other acute observers freely admitted a peculiar constitution of the lymphatic system, and imagined that it not only predisposes to various derangements of the glandular portions, but actually allows a development of certain idiopathic phenomena. Such an opinion is, perhaps, still to be justified on the ground that, while our knowledge of the nature and causes of diseased actions is materially advanced, we are yet frequently compelled to allow that a large proportion of

cases of chronic glandular enlargement are to be met with, in which no perceptible cause can be discovered, save one of a more or less constitutional character.

The conditions we are now considering are most common to the glands situated in the neck and face. Both the superficial and deeper sets are alike the subjects of the affection, but those most superficially placed seem to be more susceptible. The earliest evidence that arouses the suspicions of the patient or surgeon to the existence of this form of glandular disturbance, is an increase in the size of the affected glands. This increase is not, however, usually accompanied with any great degree of pain or local disturbance, provided there exist no direct inflammatory process. Little attention is, therefore, attracted to the change that is taking place; for the enlargement may be strictly confined, at first, to merely one or two of the glands, and, under favourable conditions, may subside or suddenly cease. Where the specific action, which has caused the increase in bulk and size, is arrested, the gland or glands either remain permanently enlarged, or else gradually resume almost their original dimensions. A removal of the morbid action may again cause similar enlargement; but on this, as well as on all subsequent occasions, the resolution becomes more tedious and imperfect.

When the superficial glands of the neck are included, the number affected is, I am inclined to believe, less than when those more deeply seated are involved, and the cause of their implication is more liable to be referred to external impressions.

Whatever portion of the lymphatic system is included, each individual gland affected may enlarge from the dimensions of a pea to that of a small orange. This accession of bulk may be more or less rapid, and accompanied with an amount of disturbance proportionate to the nature, extent, and cause of the originating mischief.

When the glands of a scrofulous subject—the cervical, for instance—are suddenly affected by exposure to cold and wet, it is not unusual to find them, during the space of a few days, or even a single night, enlarge without any sensible increase of inflammatory symptoms. Such enlargement, independent of pain, is to be attributed, in a great measure, to the naturally free and loose connexions of the glands. Let, however, those more deeply placed among the large nerves and carotid vessels become similarly affected, and it will be found that very frequently pain, or, at any rate, something more than uneasiness, will be experienced.

The most serious consequences occasionally ensue from the great size which the deep cervical glands attain. The inconvenience that arises solely from pressure on important parts is sometimes imminent, and accompanied with the most harassing symptoms. Instances are well authenticated in which fatal results have occurred from extensive enlargement of these ganglia, owing to the pressure they have exerted on the œsophagus, trachea, nerves, and large carotid vessels.

When one or more affected glands have arrived at a certain size, the irritation, combined with the irritability of the system, may produce various changes, either in the true glandular structure or in the neighbouring cellular tissue. When such result, it may be that softening of the gland ensues, and admits of suppuration, or else an abscess forms in the cellular parts. In either case, the skin soon partakes of the unhealthy disturbance, and readily admits of ulceration. Should the scrofulous habit of body be strongly developed, it is more than probable that the gland may exhibit undoubted evidence of more marked scrofulous or even tuberculous degeneration. It is rare, however, for glands included in simple chronic or subacute enlargement to suppurate, unless under peculiar circumstances; but the formation of abscess, external to the affected gland, is of more common occurrence, and may arise from simple irritation, or the accession of constitutional causes. It is not unusual to see an entire chain of simply enlarged glands, and only one or two taking on an increased inflammatory action. I have, at the present time, a patient under my care exhibiting this special feature. Several of the superficial cervical glands are much enlarged, and have been so for months, but exhibit no disposition to become inflamed, except one situated in the centre of the neck, not larger than a very small walnut, which has softened, and will probably suppurate. There is no reason to suppose that in this instance the destructive process is due to any morbid disposition, but simply to the accession of increased irritation. On the other hand, enlarged glands may exist for many months, or even years, influenced in size by variations of temperature and systemic irregularities, without exhibiting any tendency to destructive inflammation. This is well instanced in a little boy who is constantly under my notice, on account of many permanent cervical swellings, which cannot be made to yield to any kind of treatment, either local or constitutional. The child is in good health, and appears to suffer but very slight, if really any, inconvenience from the increased size of the glands. The affection, moreover, appears limited to the glands situated in the neck.

What will be presently more insisted on, though now worthy of passing remark, is the peculiar sensation which is afforded to the touch when a manipulating examination is made of this kind of glandular enlargement. In general, the affected glands, especially if of recent and tardy growth, exhibit a soft, semi-elastic cushiony feel. They roll about when slight pressure is made on them by the point of the finger, which movement is permitted by reason of the loose manner in which they are connected with the cellular tissue. They are traceable under the skin, when of moderate enlargement, not only by the touch, but by the undulations to which they give rise along the free surface of the neck. The glands situated in near proximity to the lower jaw appear to be more susceptible of subacute or chronic swelling than those occupying other localities, and, when associated with disturbance of otherwise placed glands, are generally the last to subside.

No age is free from this form of glandular enlargement; still, the period of life at which it is most generally met with may, it would appear, be fixed between the years of five and eighteen, although it is very commonly met with in mere infancy, and not unfrequently in advanced manhood. My own statistics would lead me to the belief that it is more usually encountered, during the earlier years of life, in males than in females. Of fifty cases which I have tabulated of simple chronic inflammatory enlargement of the cervical glands, occurring in children from the age of 3 to 16 years, 33 examples were in males, and 17 in females. I cannot offer the same correct statistics of cases occurring in more advanced life, but my impression, judging from those I have collected, would show the same or nearly analogous disproportion.

2. Under the second division must be classed the majority of cases of externally situated absorbent glands which become affected by a slow subacute or chronic inflammatory action, as a direct consequence of some neighbouring specific irritation, or as an accompaniment of certain varieties of scrofulous diseases. The glands of the neck pre-eminently exhibit the greatest tendency to take on such disposition, and are usually associated with certain well marked peculiarities, which at once leads to the suspicion that a more or less general scrofulous tendency exists. When such condition obtains, as the direct result of local irritation, the cause, especially in young children, will be found to be very commonly dependent on certain affections of the hairy scalp, face, and other parts; muco-purulent discharges from the eyes, nose, and ears; and irritation produced by teething. In such instances, the glandular complication will, as a rule, prove to be secondary; for, on inquiry into symptoms, it will not infrequently be discovered that the lymphatic swellings commenced after the appearance of the affections of the scalp or other parts. Moreover, the removal of the apparent cause, in such cases, at once allows subsidence of the glandular enlargement, oftentimes so rapidly as to destroy all doubt on the question.

Although for description the glands of the neck have been selected, yet those of other localities are prone to become similarly affected. It by no means follows that the glandular portion of the lymphatic system immediately associated with the local source of irritation is always involved, to the exclusion of more distant parts. I have constantly known the glands of the neck to be in a state of irritation when remote parts were harassed, and I always bear this fact in remembrance when seeking for the cause of glandular implication. But slow chronic enlargement of the external glands is commonly detected as an accompaniment, or, in other words, as a more or less direct manifestation of distinct scrofulous disturbance; and although, through the whole or greater part of the period of growth, the affected ganglia may exhibit no other morbid condition save what appears to consist of a modified chronic inflammatory increase in size, yet undoubtedly this must, if not as a rule, at least commonly, be regarded as a decided scrofulous manifestation. The correct appreciation of this condition is oftentimes difficult; but it is imperative, for on its correct discovery, in a great measure, depends satisfactory treatment. With almost any truly scrofulous disease, this condition of the glandular apparatus may exist. I have frequently examined the bodies of the victims of scrofula in various forms, and found many portions of the lymphatic system affected in no other way except

in that now under consideration, although some portions of the absorbent ganglia have been strictly tuberculous. The general observations already offered regarding the frequency, etc., of this form of enlargement, under a different phase, are equally applicable to that now under consideration; while the various pathological changes which are apt to ensue at the different periods at which the affection makes its appearance are, as will be presently explained, dependent on various circumstances, both constitutional and local.

[*To be continued.*]

ON SOME OF THE DIFFICULTIES IN THE DIAGNOSIS AND PROGNOSIS OF MENTAL DISEASES.

By C. M. BURNETT, M.D., Alton.

[*Read before the Reading Pathological Society, May 3rd, 1860.*]

IN bringing before your notice some of the difficulties that beset the path of the psychopathic inquirer, my object is not to enter generally into the subject of diagnosis and prognosis in the study of mental diseases, but to draw your attention more specially to some points on that subject which, I think you will consider with me, are of some practical importance. I have no doubt all those I have the pleasure of addressing are equally able with myself to detect the presence of the ordinary forms of mental disease, as they present their characters to us in daily practice. The well marked cases of arachnitis, with their accompanying symptoms of delirium; the high exaltation, even to violence and noise, that marks the attack of acute mania; the sullen and unnatural depression; the dark suspicion, that points to the presence of the acute forms of melancholy,—are all easily to be detected by the aid of only a small share of that professional skill and experience now so generally distributed amongst the various members of that noble and intelligent profession to which we belong.

It is not on these general forms of the disease that it will be necessary for me to dwell, as we see them with their symptoms grouped together, in the ordinary cases of daily practice. My object is rather to take one or two of the more prominent signs of mental disturbance, and to follow those signs as they are to be observed in the various forms of mental disease, while I endeavour to point out those positions in which they should be watched with gravity and vigilance.

Standing prominently forward amongst a great variety of cases of more or less importance and interest, is that symptom which we all recognise by the term *delirium*.

In drawing your attention to so great and cardinal a sign as that which is comprehended under the general term of delirium, I must not omit to point out the importance of recognising the various shades and degrees of delirium so frequently attending not only the more active and acute, but also the more chronic and less prominent forms of mental disease. Bearing this in mind, we are greatly assisted in our power to recognise the position of the case; and when we bring to our aid another sign I shall presently have to dwell upon a little more in detail —viz., the pulse—we are often able to pronounce with almost prophetic exactness the future destiny of the case before us.

We do well to bear in mind that delirium, wherever it may occur, is only one of many signs which, when added to others, make up the particular disease to which our attention may be directed. It cannot, therefore, constitute a disease of itself. The question, whether delirium and insanity are identical, is therefore superfluous. No expression can be so vague and unmeaning as that of acute delirium. We may as consistently call inflammation of the pleura by the title of acute pain in the chest. But I need not tell you that the duration of a state cannot determine its essence. If, therefore, acute delirium is a disease, so must chronic delirium be. But we do not usually dignify any one symptom, however grave, by such a title. I dwell a little upon this fact, because, if we are not strictly accurate in our nomenclature, our destiny will certainly be to be drifted further and further from the truth. Writers on insanity, therefore, have not done wisely in asserting "that chronic delirium cannot exist, because chronic delirium is insanity". Chronic delirium does exist; but it cannot of itself, apart from any other symptom, constitute insanity. Such a belief only confuses the mind, and interrupts that general and comprehensive view we ought to take of delirium as a symptom spread over a wide range of cases, where, both in its acute and chronic character, it may be seen to mark prominently the features of the case.

Thus, as a symptom, it marks one of the distinguishing characters of acute arachnitis. It also forms a prominent symptom of acute mania. But these two diseases are well marked, and their distinction is not the less clearly pointed out by the peculiarity of the delirium to be observed in each. Thus it has been stated to be a diagnostic sign of the delirium of mania, that the patient can recollect all that has passed during his attack; while it is well known that, in the delirium of arachnitis, the patient recollects only in a slight degree a very few of the circumstances that have occurred in the course of the delirium. Yet if we take these two facts with us to the bedside, and try to make use of them there for our guidance, we are surprised to find how badly they serve us. And the reason is, that we expect to find either only the one form of delirium or the other. This, we presume, is clearly to be detected; or, if not detected, the existence of the two kinds of delirium in the same case is not suspected. Our mistake has been in not supposing that the two kinds of delirium may be present in the same case. We have hitherto supposed that, in natural disease, the symptoms which in our nosologies are put to define one particular form of disease, are of a different nature, and are never found blended with those of any other form. But the truth is, that the delirium of acute mania and the delirium of acute arachnitis may both be present in the same case; and it is the blending of these symptoms in mental disease that enhances the difficulty so greatly, and thus heightens the obscurity of our diagnosis. If we could, in every case of mental derangement that comes before us, be satisfied that there was no blending of the symptoms of these two very different kinds of delirium, we might with far less difficulty than we now experience, pronounce with confidence both the exact nature and the probable issue of the case. But those amongst us who have larger opportunities of observation and deeper experience of the mingling tendency of some of the most clearly marked signs of disease, know that the two kinds of delirium of which I am now speaking often become blended in the same case, thus producing doubt and confusion in the minds of those who are unprepared for such difficulties. But, having been prepared for these combinations, we find that, instead of producing confusion, they furnish us with a clearer and more trustworthy prognosis.

When these more complicated forms of mania present themselves, where the incoherence is deeper and more complete, we may generally calculate their duration with tolerable certainty. But whether the prognosis is favourable or unfavourable, is a point resting upon quite a different symptom, viz., the character and frequency of the pulse.

Now, before I proceed to illustrate these observations by cases taken from my own notebook and brought under my own eye, I must make a few remarks upon the *pulse;* for, without we bring the varied signs of the pulse under close and constant notice, we must be prepared often to be baffled in our diagnosis as well as in our prognosis. To pay diligent attention to the extent and fluctuations of the pulse, in all active cases of this nature, is truly the way to be provided with the most skilful method both of anticipating and of averting the fatal issue. The pulse is always accelerated in acute mania, at some period in the twenty-four hours more than at others. We may rest much of our prognosis confidently upon the pulse in such cases, if we bear in mind that the danger is indicated by the frequency in the return and duration of its acceleration. As long as there is a distinct subsiding in the frequency of the pulse, and which generally occurs soon after the active paroxysm has passed off, we may hopefully anticipate a favourable issue; and not unusually the disease is completely subdued within the fortnight, if wisely treated.

Rarely do you find, where there is real danger, the pulse as in other cases rising and falling with the paroxysm; but, on the contrary, you have a continuous and more or less accelerated vascular action; and this rule applies to the puerperal form of acute mania, as to the acute mania arising from other causes.

The late Dr. Gooch detected this character in the pulse of some of those affected by puerperal mania. He found "that there are two forms of puerperal mania—a hint he had already got from the manuscript notes of the late Dr. William Hunter. One of these forms was attended by fever, or at least the most important part of it, a rapid pulse; the other accompanied by a moderate disturbance of the circulation. It was those accompanied by a quick pulse that so frequently proved fatal." I have found this fact to be strictly correct, and have seen it practically verified. Never to my recollection have I found in such cases, where the quickness of the pulse was uninter-

rupted, and accompanied by febrile symptoms, that they proved otherwise than fatal, whether they occurred after childbed, or from any other cause. And why is this? Because the disturbance is no longer an affair simply of the blood-vessels, or of the blood itself; but that disturbance has involved the structures to which that blood and those vessels have been distributed. Even in the less deeply incoherent cases of acute mania, where you get a continued rapidity of the pulse, the great probability is, that the case will terminate in a few days, either favourably or fatally.

There are few exceptions to this rule, and I will name them here. I have sometimes found in cases of erotomania, when the pulse has, after many trials, been found to be permanently quick, and even rapid, that this state has seemed to arise from the presence of the opposite sex. But I have not been able to satisfy my mind that, when the patient was only in the presence of females, the pulse has returned to its natural beat. I have also found that, in suicidal cases of acute melancholia, the pulse has continued very rapid for many days; and one, on the sixth day after I had observed this symptom, committed suicide. With few exceptions, the rule I have stated, as applied to the pulse, is a sound one, and is not likely to mislead. It holds good even in cases of a mixed character, as in those of metastasis and also of conversion. If you get a case of metastasis where the pulse remains quiet, all the symptoms having been transferred, say from the lungs to the brain, though the pulse before the metastasis was so accelerated as to excite alarm, the probability is, that the mental disease will subside favourably. I had this fact confirmed in a very remarkable case of metastasis from the abdomen to the brain.

Case I. The person was the wife of a farmer, about 24 years of age. She was within one month of her confinement, when she caught cold, and became the subject of the most violent pain all over the abdomen, probably in the muscular fibres of the uterus. The pulse was very full, and driving on at a quick pace. These symptoms continuing, as she was full of health and of a sanguineous temperament, I recommended a pint of blood to be drawn. The pain quickly yielded, but the labour could not be averted, though it did not take place for two or three days. The pulse was, however, quick, and much alarm was caused. All on a sudden, the next day after her confinement, she became the subject of puerperal mania. She was quite incoherent; the pain left the abdomen; the pulse fell to about 70, in which state it continued about three weeks, and never varied when she had recovered her mind.

You can have no such hope in those cases of metastasis where the pulse is beating quickly and even rapidly. Here, as in the unmixed forms, where you get rapidity of pulse, the patient generally dies. But happily such cases of mania, with such a condition of the circulation, are comparatively rare, though when accompanied by the more unmistakeable symptoms of the disease, it is not difficult to detect the presence of grave and even fatal symptoms.

But the great test and perfection of our diagnosis is to be shown in those cases where the symptoms do not run parallel—where some are almost entirely obscured, and others are taking a prominent place. The true form of this disease must take its characters from that part of the brain that is chiefly involved. It is not to those characters as they are more commonly to be observed that your attention needs to be drawn, but to the irregularity of their development and the obscurity of the symptoms, however unimportant they may appear to be.

Having drawn your attention to the character and range of the pulse, I am anxious at once to relate one or two cases, to confirm the statements I have made; and first I will mention a case of arachnitis of the arch extending down the occiput into the cervical portion of the spinal canal. And, as in the delirium of acute mania you find the fatal or the favourable termination resting upon either the permanent or the intermittent frequency of the pulse, so is it in the acute delirium of arachnitis.

Case II. This fact was clearly brought before me in the case of a youth, by occupation a house carpenter, about 20 years of age. It was a most formidable case; and, without the knowledge of the pulse, would have drawn forth an unfavourable prognosis. There was a predisposition to insanity in the family, the grandfather having destroyed himself. The ordinary symptoms of arachnitis of the arch set in suddenly, with pain over the crown of the head. There was slight sickness of the stomach, with retching. He was sensible at intervals, and could answer questions. These intervals were followed by periodical returns of delirium. The range of the pulse was in this case as great as I ever recollect to have experienced in a case that did not terminate fatally. It varied from 80 to 140, and it was the power to fall back in the reposing intervals of the attack to a frequency little above the natural standard, that gave a favourable termination to the case. We had to baffle with a symptom that masked the case, and greatly increased its gravity. The disease took a course along the back of the head, in the direction of the cord. There was occasional loss of the power to raise the arms, or even to keep them up when raised. There was a determined resistance to swallow anything, whether solid or liquid; the eye was glistening and staring, so that there seemed added to the other symptoms those resembling hydrophobia. His excessive fright at the thought of swallowing lasted nearly forty-eight hours. After complete abstinence for that period, the delirium and confusion being greater, he suddenly called for gingerbeer, which he drank with avidity, and without difficulty. From this point, the symptoms took a favourable turn. All the danger was comprehended within eight days.

I have named this case here purely to show you that in that kind of delirium which accompanies arachnitis the variations in the frequency of the pulse are equally great as in the delirium of mania, and when those variations can be detected, the prognosis in the one, as in the other, may be alike favourably formed. I will now relate a case of acute mania where a similar fluctuation in the pulse was present.

Case III. An officer in the Indian army had been the subject of occasional fits of delirium tremens, from habits of drinking; he was now first attacked by the delirium of mania. He became excited and violent to the highest degree. This passed rapidly into a state of incoherence and apparent unconsciousness, in which he remained more or less absorbed and prostrated for two or three days. In the shorter stages of the deepest confusion during this time, no food could be got into the stomach. Occasionally the pulse rose to about 100, and sometimes higher, but it subsided to between 80 and 90, where it remained till the confusion gradually disappeared. The faculties were completely restored within a fortnight from the commencement of the attack. When recovered, he told me he was not conscious of anything that had passed in his presence for several days, nor did he know where he was.

You will observe that here was the unconscious delirium of arachnitis accompanying a case of acute mania, where, if the sign is a correct one, the delirium ought to be of the conscious variety. This case verifies the statement I have made, viz., that the delirium accompanying one form of mania will sometimes assume that of another. That statement is also borne out by the following.

Case IV was that of a young lady, aged 27, whose first attack was so sudden that it came on in a ball-room, being the effect of a practical joke played upon her by some officers. She was exactly fourteen days under the excitement of the disease, the pulse rising and falling with the paroxysms. The delirium and incoherence here were so complete at times that after the attack was over, she told me that during a great portion of this period she had no distinct recollection of what had been going on. One circumstance was very strongly, though falsely, impressed upon her mind. She was able to recollect that on one occasion, when the attendants were putting her into bed, she thought they were putting her into a fire, and she said she literally felt the sensation of burning, probably imparted from the skin coming into contact with the cold sheets; so that here there must have been considerable loss of identity, both personal and impersonal.

In the last two cases, you will have noticed that the power to retain the memory of things passing during the attack was almost lost, while in Case II there was decidedly, in spite of the formidable symptoms, a fairly connected knowledge of what was going on. And this is a fact to which I would call attention in passing, as it weakens the assertion that one of the diagnostic signs of the delirium of mania and of arachnitis, is that in the one the memory of what passes during the paroxysm is retained, but not so in the other.

The two following cases of acute mania, one of them being a case of metastasis, are here given, to show how truly the uninterrupted rapidity of pulse pointed to a fatal issue:—

Case V. M. H., aged 41, was the wife of a yeoman. She was very stout. When first attacked, she was noisy, violent, and incoherent. She had refused food for several days before I saw her, so that there was considerable exhaustion, with an invariable and rapid pulse. In spite of the free supply of food and stimulants, the pulse never lessened in frequency, though

the symptoms were occasionally more hopeful. She sank on the seventeenth day of the attack.

CASE VI was one of metastasis. Though the mania here was of the acute form, it was not attended with as much incoherence as we often see accompanying the ordinary cases of acute mania. J. H., a young lady, aged 30, had a highly cultivated and extremely sensitive mind, and delicate taste. For some months, she had been the subject of pulmonary disease, for which she had been advised to take up her residence on the southern side of the Isle of Wight. This step, for some reason or other, was opposed by the brother; and on arguing the point with him, in her feeble state, her feelings were carried beyond her control, and the interview was followed immediately by symptoms of mental excitement, allied to the ordinary form of acute mania. She became violent and impetuous, unreasonable, and at times incoherent. This state of things had continued rather more than forty-eight hours, when I first saw her. They were unable to keep her in bed, though it was unsafe for her to be in an upright posture. She was planning a multitude of schemes, and breaking them up as soon as they were formed in her mind. Every footstep, every object excited her more. It was with great difficulty that the smallest quantity of liquid food could be got into the stomach. The pulse was running on at a very rapid pace, as fast as I was able to count it—about 140 in the minute. I waited some time for the partial subsidence of the paroxysms, and tried to persuade myself that the pulse, during these short intervals, was less frequent. I believe that it was; but at no period during those intervals did it fall below 120. I saw her frequently up to the period of her death, which occurred eight days afterwards; and though she had decided intervals of improvement in other symptoms, yet there was no alteration in the pulse below the fluctuation I have stated, and she sank exhausted.

The suddenness of the assault in this case was an additional cause of obscurity; the excitement of ordinary anger seldom leading so directly to the development of the disease. In few diseases are we so speedily called upon to contend with effects of such a formidable character, following so closely upon a cause apparently so inadequate.

These are cases of most active interest, and when I touch upon them, you are quickly reminded of their importance. They often go out suddenly, like a lamp abruptly cut short of its oil. When such cases cross our path, we are struck with the intensity of the functional disturbance, and if we are permitted to examine the structures after death, we are reminded of a practical remark of Andral, viz., that the changes here are by no means apparently proportionate to that great disturbance we have witnessed. And this confirms a truth stated by Feuchtersleben, that all psychopathies have no seat, properly so called, but are the result of two factors, one taken from the somatic, the other from the psychical causes. These are some of the difficulties we have constantly to contend with in psychopathic medicine in forming our diagnosis, and none are greater than those arising out of the suddenness and the violence of psychical causes, such as anger and fright. The action they set up is sometimes so instantaneous that we are tempted to doubt whether the cerebral structures can have anything to do with it. We suppose there is no time for this. Yet serous effusion or transposition of the blood-constituents do not turn always by clock-work. And that opinion is premature which denies, in so sudden an assault, the power to effect changes in the blood, and even in the tissues, which might as strictly be regarded as the finishing stroke of other causes, the effects of which, though concealed from the eye of the morbid anatomist, might have taken years to mature on the somatic side. Surely if there is any meaning in predisposing causes, they must have their roots fastened on the somatic side with very varied degrees of strength. And in this case it is hardly to be doubted, that though the first announcement of the disease was so tragic, the preparation for the explosion had been a more tardy process. Thus the closer we watch our cases, and compare the vascular and somatic disturbances by which they are accompanied, the more certainly shall we be assured that these degrees of delirium, whether in its complete or its incomplete form, and these marked changes in the character and frequency of the pulse, are closely and accurately dependent upon somatic changes going on at different parts of the organisation. The profound subject of organic chemistry has hitherto permitted us to advance but a short distance in that direction. The path has been strewed with obstacles of no ordinary character, which have largely tended to oppose or retard the labours of the animal chemist.

A clearer insight into the higher laws of organised matter has, nevertheless, given both to physiology and to pathology an impulse rarely before experienced, which at one time seemed to point, in the expectant minds of some, to a period when syntheses of many of the most intricate unions and structures would be accomplished, and we should be able to elaborate and repair the injuries done to organic structures. But our efforts, to be successful, must be set in motion at an anterior stage to this. And perhaps there is no class of maladies which, if we desire success, so arbitrarily requires this condition as the maladies of the mind. The work of synthesis, we ought never to forget, is a divine work, made in secret, and so far placed beyond our ken that we can neither imitate it nor restore it. The only advance we can make in that direction is by accurately studying the laws which govern its operation, and the morbid phenomena that result when those laws have been infringed. In this way we learn to avoid or to remove those causes which have a tendency to alter, to retard, or to break down the synthetic process. But that process having been altered or broken down, the growth or renewal of the natural structure, as a consequence, must necessarily be changed, it may be irrevocably. When these changes take place on the somatic side, whether it be in the blood or in the tissues proceeding from the blood, they must more readily invite the operation of psychical causes, otherwise too insignificant to produce disturbance; and the result is a series of morbid phenomena, accurately indicative of some corresponding abnormal change.

Our discernment of the exact position of the case brought before us is often aided by the recollection that the state of the cerebral tissues and of the blood is not a fixed one, and therefore if the disease has been induced by a trifling exciting cause it shows the structure of the brain to be less prepared for the assault. You see this well illustrated by observing what different effects the same quantity, or nearly the same, of some diffusible stimulant has upon different persons. One will be intoxicated by a very little alcohol, another requires a large quantity, a third is scarcely susceptible of any effect, though a very large quantity be taken. And when the morbid phenomena are produced, how variable are they in their effects. One is joyous, another riotous, another mischievous; others are obscene and dangerous; others are sleepy, stupid, or comatose. It is the close study of these morbid phenomena that forms the groundwork of our most valuable and accurate diagnosis. Blood conveying to the brain not only a deficient amount of nutrient material, but some abnormal substitute for that material, must obviously fail to effect those healthy psychological phenomena which can strictly belong only to tissues brought together in normal proportions. The more those proportions deviate from their healthy standard the more complete is the psychopathy; in other words, the more unable is the brain to recognise truthfully the objects and phenomena of the outer world. An *undue* preponderance in the blood of any one of those elements, even that go to form the basis of the healthy tissues, produces an undue development of the structures those constituents supply. We know, from chemical analysis, that the phosphorus of the brain is largely increased during the acute stages of mania. In other more advanced stages of insanity, as in moria or dementia, the actual weight of the brain may be increased. And this hypertrophy in the instrument of the mind, often accompanies a more general atrophy of the body. We are able to trace the rapid succession of exalted ideas, in the delirium of mania, to the presence of those substances in excess which form, in their normal proportions, a large part of the chemical constituents of the brain. It is in the rapid succession of ideas we notice in some of the acute forms of mania, that we must all have been able, at times, to detect a gradual increase of incoherence, till all power of recognition, and even consciousness, seems to be lost. Those who suppose that, because that incoherence and unconsciousness is more complete in the acute cases than it is in some of the chronic and intermittent forms of the disease, it does not exist at all in these last, are probably not aware of the fact, that a temporary abolition of the understanding, sufficient to destroy healthy mental gestation, takes place in both kinds of mania; and they are still less prepared to recognise the presence of delirium, or its near relative, in many chronic diseases of the mind.

It is to such cases that I would, before closing these remarks, desire to draw your attention, as they constitute a large proportion of the cases that come before us; and, not having the well-marked signs of the more acute forms, they often elude our grasp, and bring our judgment into danger. Many of them challenge our most careful and systematic attention.

Observe now how the signs of the disease are altered. What is the delirium now? It has been changed from that of inco-

herence to a rapid succession of imperfectly-formed ideas. It is a movement in the same direction, precisely the same in character, but a less rapid and unrestrained one. We see a man using, very creditably, some of the faculties of his mind; his excited or hurried manner is overlooked or charitably disposed of in a glass or two of wine. But in these chronic and intermittent forms of mania, the ideas are so rapidly formed that they cannot all be submitted to the judgment, and before one is completed, another steps in, to produce nothing but confusion, or perhaps vexation, in the mind of the person affected. He proceeds to carry out his plans; but he has not duly pondered over them, and cannot discover that they are beyond him. All this may be done without noise or even so much exaltation as may be noticed in a person made joyous and merry from the effect of wine. He is not suspected till he begins to display more or less disregard to the value of money. And now it becomes extremely difficult to detect the unsoundness of the case, so clearly as to justify the detention of the person. There may be no more outward evidence of the unconnected state of mind that has resulted from this chronic form of delirium, than you would notice in many whom you meet and converse with in ordinary life. It would be therefore impossible to pronounce the mind to be unsound, merely from such conversation. All the excitement of manner, and untiring conversation upon countless subjects begun but not finished, may have passed away, and the presence of some carefully expressed delusion, with rather less deference for the rules of society, may be the only thing you can lay hold of. In such cases, the history is most valuable, and affords the best opportunity of estimating the real dimensions of the case. But in the chronic intermittent forms of mania, in males, where the ordinary latitude is less limited than in females, it is most puzzling sometimes to say whether the patient should be restrained; and there are multitudes of such cases, that can pass through the entire paroxysm, spread over a period of one or two months, who manage to navigate their case so cleverly as not only to escape detection by the physician, but to have excited no actual belief of the presence of the disease in the mind of those amongst whom they live. Many such cases come into the asylum just at the close of the paroxysm, when they have expended all their excitement, and perhaps all their money, before admission. The passive restraint and quiet now produce a speedy recovery, and they go out, and remain well for two or three years. Some of these cases are, when abroad, often marked by and brought under the influence of alcohol. They drink themselves almost insensible, then they rest a few days, and return to the same habit, doing nothing. If in business, they give no directions, and they let everything go to ruin. These are not drunkards, properly so called, the inebriation being the effect, not the cause, of the mental excitement.

Many lives have been lost by the unrestrained and incoherent acts of such cases. And the circumstance of their being so often mixed up with stimulants is one to put you on your guard, in pronouncing on such cases, to be armed with the previous history if possible.

The delirium of drunkenness is often mixed up with cases of chronic mania; and it is worth while to observe how far all those cases that present such a marked periodical character, may not be cases of this kind, where the excitement produces first the incautious taking of the spirit, till at last it cannot be resisted. In these cases, the effects of the alcohol linger more than in ordinary drunkenness. When you can be satisfied that chronic mania of a periodical character is the cause, it is the greatest kindness to incarcerate them for a few weeks or months, as the state of the case dictates; and, when they return to the ordinary duties of life, you will have the gratification of seeing the correctness of your diagnosis confirmed, and the patient taking his proper place in society. I need not say there is a great distinction between these cases and those of delirium tremens. Though you may not find it advisable to incarcerate the ordinary case of delirium tremens, knowing also that as soon as such a case is set free it will lapse into a similar state, you will find the cases I am speaking of, where spirit has been taken as the effect of periodical or intermittent mania, these persons will, under judicious confinement, not only recover their mind, but their life has probably been saved.

There are, in all society in which we mix, constantly to be found cases in different stages of that form of mania which assumes a periodical character. Sometimes it is called intermittent. Here the mania seldom reaches the height of the ordinary form of acute mania. Though in other characters it may very properly be termed acute, yet the exaltation, seldom advancing so far as to produce actual incoherence, is of a less prominent or attractive kind; and therefore the disease is apt to be mistaken. A lady 75 years of age, of noble family, sits often by my side at dinner. Her faculties are so good, and her education has been so comprehensive, that she can talk upon any subject with credit and moderation. She is most amiable and gentle. Why, therefore, is she placed under any restraint? Because she is under the influence of one of those forms of periodical subacute mania that are of so common occurrence, but which are also so frequently allowed to pass unrecognised. In this case, the attributes of the mind, that part of the mind that conducts its various moving powers, is involved—the judgment, the will, the attention, the memory, cannot take cognisance of the increased number of ideas that are rapidly passing through the mind; and all this disorder is going on in the patient, without its producing a higher degree of excitement than we often observe in many who are in possession of a sound mind. The weakness, and indeed the unsoundness of these cases, is to be detected more in the will and the judgment, as these attributes are applied to the sentiments and feelings. They make false estimates of things, particularly of their value or their virtue, and they act upon the supposed reality of their conjecture. As soon as this kind of attack subsides, the judgment and the will recover their former power, and the patient can be at large with safety. But great mischief to society arises from the fact of so many refusing to certify that such cases are fit to be taken care of, simply because there is no actual incoherence or even palpable confusion in conversation; or because there is no violence or excitement.

Vast sums of money are expended by such persons, and few have any idea of the aggregate of misery thus entailed upon their relatives and friends. The best way to discover the existence of the disease in these cases, is to get the patient upon subjects to which the mind (whether the intellect or the feelings) has naturally been most directed, and here it is sure to exhibit some morbid signs if attentively watched.

I hope I have not been too tedious in my remarks upon a subject I have thought would be likely to enlarge our sphere of usefulness, and to add, in however small a degree, yet something to the common stock of professional knowledge.

Transactions of Branches.

BATH AND BRISTOL BRANCH.

GALL-STONES VOIDED THROUGH THE ABDOMINAL PARIETES.

By Joseph Hinton, Esq., Hinton, Bath.

[*Read July 12th*, 1860.]

The passage of gall-stones, by other outlets than that which may be termed the natural canal, has at various times been noticed. The accompanying brief outline will add another to the list.

Sarah Allen, aged 67, a pauper, came under my notice for the first time in February of the present year, at which time mere dyspeptic symptoms were complained of. These yielded readily to appropriate treatment.

In the early part of March, she was represented as being very much worse, and then I gleaned the following history. She had always been a very healthy hard working woman, never having laid by except during her confinements: these, however, had been difficult, occasionally requiring instruments. I could not trace any attack simulating gall-stones. She was now partially insensible; the head hot; the skin dry; there was also slight œdema of the legs. I found the bowels sluggish; the urine was scanty, rather high coloured and sooty, and it proved highly albuminous. Free purgation, antimonial salines, dry cupping to the loins, coupled with blisters to the nape of the neck and neighbouring parts, relieved her considerably. The urine recovered its natural appearance, and the albumen disappeared; but, as the head-symptoms left her, she had a sharp attack of peritonitis, the abdomen being for several days remarkably tense and tender on pressure. Mercury and opium were freely administered with great benefit; when, towards the end of March, and during, as it seemed, her convalescence, the glands around the jaw and down the sides of the neck became frightfully enlarged, and of almost stony hardness. In a few days they suppurated, opening in numbers of places, and discharging thin unhealthy pus. The general powers now began to fail. The tongue was dry; the pulse quick and feeble.

Quinine, port-wine, and beef-tea were continually given, and she commenced slowly to rally.

On one of my visits, in the early part of April, she complained of soreness at the umbilicus; and I found beneath this point a small swelling, the skin discoloured, and indistinct fluctuation. In general condition, she was improving. I ordered this to be fomented and poulticed. Two days afterwards, I was hastily summoned. The friends appeared in great alarm, and told me they had followed my directions. The abscess had burst; and now, to use their own expression, "her business came out there". She was certainly in no worse condition as to general strength; but there had been a copious discharge of dark pus from the abscess. As far as appearances went, this matter evidently contained bile, and was not fæculent in odour.

The old woman continued to improve, fed well, and slept fairly; while the tongue lost its dry hard coat, and very gradually moistened. About a week after the bursting of the abscess, nine or ten small gall-stones passed through the wound. On my next visit, two days afterwards, thirty-nine more were given me, some of which were large. Ten or twenty more were passed at varying intervals, the wound sometimes appearing healed. On one occasion, I endeavoured to discover the direction of the passage with a warmed gum-elastic catheter, but could not succeed. The opening was generally filled with a large granulation, and appeared valvular.

Steady progress was now made. The wound closed up in the beginning of June; the abscess in the neck healed, leaving, of course, some amount of induration. She was able to sit up in bed, and, seated in a chair, was carried to her daughter's house. I now considered her comparatively well, and in this state intended bringing the case before you. The completion, however, was close at hand. On the 2nd of July, after complaining of headache, she was seized with convulsions, from which she never rallied, dying in about thirty-six hours. Some urine, not very clear, which she passed before insensibility became complete, was clouded by heat. No treatment appeared to have any influence.

Post Mortem Examination, sixty hours after death. The abdomen only was examined. In making the incision, I deviated from the usual course, so as to leave an inch of integument around the umbilicus. Peritoneal adhesions existed all over the surface of the liver, but they were easily broken down. The two lobes of the liver were united by adhesions around the round ligament, which appeared free from the disease, and unconnected with the umbilical mischief. The gall-bladder was considerably below the anterior border of the liver, and was attached by adhesions to the umbilicus. There had evidently been direct communication; but, on careful dissection, I could discover no actual canal, and presume that it was obliterated. The gall-bladder still contained from fifteen to twenty stones. The whole of the tissues around the umbilicus, and among the adhesions, were filled with dark pigment. The liver itself was large and fatty. The kidneys were both advanced in disease, and there was very little difference between the cortical and internal portions. No adhesions existed between the intestines. The head was not examined; the state of the kidney explains the death.

Remarks. Whether the fatal result might have been averted by an issue or seton, made as the various discharges ceased, may be a matter of opinion, the argument against such a course being, that the disease was not of long standing, and that her amount of nourishment was very materially lessened.

SOUTH-MIDLAND BRANCH.

CASE OF POISONING BY STRYCHNIA.

By William Paley, M.D., Peterborough.

[*Read at Bedford, June 15th*, 1860.]

I was sent for on Sunday, the 6th of May, about half-past two o'clock in the afternoon, to see Mary Jane Pope. Her father, who came for me, gave me the following information. His youngest child, an infant about five months old, had died in convulsions a few weeks previously. Another boy, aged eight years, had quite recently been suffering from fits; he was drawn backwards, and became stiff, but had eventually recovered, after a fit of vomiting. His daughter, whom he now wished me to see, had been seized with a fit whilst at chapel that morning. My attention was thus directed, even before I saw the patient, to the very singular fact, that three children of the same family had all been suffering from fits within so short a period. I ascertained subsequently that my patient, who was a well-made very healthy-looking girl, between seventeen and eighteen years of age, who had scarcely ever before suffered from any illness, had appeared in her usual health that morning; that at about half-past nine o'clock she had made a hearty breakfast, with the rest of the family, of coffee, bread and lard, and cold mutton; that she then dressed herself, and went to chapel about eleven. After being there about three-quarters of an hour, she was observed suddenly to throw herself violently back in her seat, and then fall forwards, her hands twitching about. She was assisted out of chapel by two neighbours, and was enabled to walk home with their help, one supporting her on each side, a distance of 250 yards, without stopping. She appeared in pain, walked unsteadily, had frequent twitchings, especially of the right side, but was perfectly conscious.

She was put into a warm bath by her friends; and while in it was first seen by my friend, Mr. Pearce, a little after one o'clock. In his evidence before the jury, he states—"I found her quite able to answer questions. Said she was in no pain, and did not feel sick: the pulse was very quick, and the pupils natural." Mr. Pearce sent her five grains of calomel, and five of scammony, and a draught with some salts and senna, which were administered as soon as they arrived. On his return to the house, in about half an hour, he found her in bed, just recovering from a second fit. He stayed with her, and in about twenty minutes she had a third fit, which lasted about three minutes, and which he thus describes:—"It commenced with convulsions over the whole body and limbs; the limbs were particularly rigid; her head and body thrown backwards; she requested to be held tight, complained of great constriction about the throat, and said she felt as though she was choking. The convulsions were succeeded by blackness of the face, at the same time the system became generally relaxed; this was followed by great paleness of the lips and countenance. There was slight frothing at the mouth." When the fit was over, Mr. Pearce observed, "She could swallow without difficulty. If I coughed loudly, it brought on spasm; if I came suddenly into contact with the bed, or if I lightly touched her on the foot with my finger, it brought on spasm."

It was after this third fit that I arrived. I found her in bed, wrapped in blankets, perspiring profusely, as if just out of a hot bath. Her countenance was anxious; the pulse so quick that I could scarcely count it; the eyes were turned up; the pupils natural. She was perfectly conscious, answered questions readily, and said she was in no pain. On speaking to her rather loudly, I observed a slight convulsive trembling of all the limbs to come on; the same thing occurred on touching her wrist to feel her pulse. Her nervous excitability was so great, and she complained so much of our disturbing her by speaking before her, that Mr. Pearce, her mother, and myself, withdrew into the next room to talk over the case. In about ten minutes, we were called again into her room, as another fit—the fourth—was coming on. I found her quite sensible, with convulsive twitchings of nearly all the muscles of the body, slight at first, but rapidly increasing in intensity, till she shook the bed under her. She called out, "Hold me, hold me," and appeared excessively alarmed. I put my hands on both her knees, to steady them; they were not then rigid, but were twitching convulsively; there was then no distortion of the face. In a very short space of time, I should think after the lapse of about a minute, tetanic rigidity of apparently every muscle of the body came on. In consequence, respiration was entirely suspended; the face turned first livid and then deadly pale; the pulse ceased to beat; slight foam came from the lips; and she appeared dead—in fact, I thought she was dead. In about half or a quarter of a minute, however, the tetanic spasms relaxed; the eyelids began to quiver; she began gradually to breathe again, and in a few minutes appeared almost as well as before the fit. The only time she was insensible was during the very brief period that the tetanic spasms lasted.

Up to this time, we had been so fully engaged, first in questioning the mother about the symptoms of the other two children who were said to have suffered from fits, and then in closely watching the patient herself during the fit, that we had not been able to spare a minute to confer together. I now called Mr. Pearce aside, and at once gave it as my decided opinion that the girl, and probably one of the other children, had been poisoned by strychnia, as I had never witnessed, in the whole course of my practice, anything like the same symptoms produced by disease alone. I found that Mr. Pearce had latterly, after witnessing the fits, begun most strongly to suspect the same thing, but, of course, felt most reluctant to make so serious a charge without a previous consultation, more especially as the patient and her parents were highly respectable

people, who had hitherto borne irreproachable characters. In answer to our inquiries as to whether any kind of poison had been taken, accidentally or otherwise, we were assured, both by the patient herself and by her parents, that nothing of the sort had been given, and that none was ever kept in the house.

As so long a time had elapsed since the poison had been taken, probably nearly four hours, supposing that not more than twenty minutes or half an hour at most could have passed between the swallowing of it and the production of its effects, there appeared to us to be little use in then giving emetics, as a large portion of it must by that time have been absorbed into the system. We contented ourselves, therefore, with keeping her as quiet as possible, with only one attendant and myself in the room. We gave her a little aromatic spirits of ammonia and camphor mixture, as she appeared very faint, part of which she swallowed easily; but on giving the rest, a few drops fell from the spoon on her bare neck, and immediately brought on the spasms, so we desisted. She remained tolerably quiet for the next twenty minutes; but we noticed that when touched or sharply spoken to the spasmodic tremblings of the limbs immediately came on. I now left her, for about twenty minutes, in Mr. Pearce's charge, and on my return found that she had had another fit, the fifth, exactly similar to the one we had witnessed together.

We then thought that it would be right, as a last resort, to try an emetic, and gave her a scruple of sulphate of zinc dissolved in about half a teacupful of warm water, which she drank readily. Mr. Pearce now left to visit other patients, and I remained. In about fifteen to twenty minutes the sixth and last fit came on. It presented precisely the same symptoms as the one I have previously described, save that towards the close of it the general tetanic rigidity of all the muscles was more severe; the face became of a deep purple; she gasped out "choke, choke;" foam came from her lips, and she ceased to breathe. It was impossible to say precisely when she died; as the tetanic rigidity did not relax at all, as in the former fit, but remained long after death. The arms were forcibly bent over the chest, crossing each other, and the hands were rigidly closed. I felt the legs, and found them perfectly stiff, so that I could not bend the knees. The stiffness of the limbs continued as long as I remained with the body, about fifteen or twenty minutes; but, in about half an hour afterwards, the nurse was able to forcibly draw down the arms by her side.

I should have mentioned before that she frequently complained of thirst, and drank several times a glass of water. During the whole time of her illness, from about half-past eleven till her death, which took place a little before five, there was no evacuation either from the bladder, bowels, or stomach.

Examination of the Body, twenty-three hours after death, by Mr. Pearce and myself. The weather being cool, decomposition had only just commenced. The body was well formed—rather fat. The front of the legs, the feet, and many other parts of the body, were much discoloured; the features were greatly swollen, and a quantity of dark coloured frothy mucus was running from the mouth and nose. There was no unusual rigidity about the limbs. We opened the body, tied carefully the two ends of the stomach, and removed it with its contents. On slitting it open, we found about two ounces and a half of half-digested food, with fragments of meat distinctly visible, all which, with the stomach itself, we carefully preserved. At the cardiac orifice, there was a small patch of membrane where the blood-vessels had an injected and arborescent appearance; close to the pylorus, there was another patch of about the size of a dollar, of a very dark almost black colour, and near it several spots of distinct ecchymosis; the membrane, though softened, was not abraded. We then removed the intestines, and slit them up through their whole extent, reserving their contents. At the end of the ileum, there were several similar spots of ecchymosis, but, with this exception, they were perfectly healthy. The liver, a portion of which we preserved, was very dark coloured and soft, but otherwise natural in size and structure. The spleen was also natural, but rather congested. The kidneys were dark, as if gorged with blood; but, on cutting them open, no appearance of disease in their structure was seen. The uterus was of natural size, unimpregnated. The bladder contained a considerable quantity of urine, some of which we preserved. In the chest, we found some old adhesions at the base and posterior part of the right lung. The lungs themselves were much congested, and of a very dark colour, but crepitant throughout, and otherwise healthy in structure when cut into. On cutting through the large vessels at the neck, to take out the lungs, we were struck with the unusually large quantity of dark fluid blood which flowed from the venæ innominatæ; some of this we preserved. The pericardium was quite healthy. The heart, of its natural size and structure, was nearly empty of blood; what remained was quite fluid; there were no coagula in its cavities; the valves were quite healthy. We then opened the head, and took out the brain carefully; both it and its membranes were remarkably healthy, and on slicing it, no trace of disease could be detected in its structure. We then opened the spinal canal, and took out the upper three-fourths of the chord and its membrane; both were perfectly healthy. With the exception of the slight traces of inflammation in the membranes of the stomach and ileum, and the generally congested state of the thoracic and abdominal organs, the whole of the body appeared to be quite free from disease.

Chemical Analysis by H. Letheby, M.B. The following account of the chemical analysis was given to me by Dr. Letheby:—

"On Wednesday, the 9th of May, 1860, I received from Mr. Edwards, the Superintendent of Police at Peterborough, two jars, three bottles, and a packet of Battle's vermin-killer. One jar was labelled, "*Stomach and its contents, with a piece of the ileum and the head of the cæcum*". The other jar was labelled, "*Contents of large and small intestines, and a piece of liver*". One bottle contained about *two ounces of blood from the vessels of the neck*. Another bottle contained nearly *two ounces of urine*; and the third bottle contained *eight ounces of the well-water used by the family for domestic purposes*.

"The stomach was cut open, and it floated in its contents with the two pieces of intestine. Except at the large end of the stomach, the mucous coat was healthy and natural; but at that end there was a nearly circular patch, about three inches in diameter, which was red, and showed marks of irritation. The two pieces of intestine were also cut open, but they were free from morbid appearance. The contents of the stomach amounted to two-and-a-half ounces in quantity; they had the general consistence of gruel, were of a pale brown colour, and contained portions of partially digested meat, with bread, fat (like dripping), and fragments of tea-leaves. They had an acid reaction.

"All these matters were first examined by the volatile tests, for hydrocyanic acid, but with negative results. They were then digested in alcohol, filtered, and examined for mineral poison; but, as before, with negative results. The alcoholic solution was then precipitated with subacetate of lead, filtered, and decomposed with sulphuretted hydrogen. After the separation of sulphide of lead, the clear liquid was evaporated nearly to dryness, and the residue dissolved in about two ounces of distilled water; it was then filtered, in order to separate a few flakes of fat; and, after the addition of ammonia, so as to make it slightly alkaline, it was treated with successive portions of ether, using about four ounces of ether at a time. The ethereal solution was distilled, and there remained two grains and a half of a pale yellow resinoid matter, of an intensely bitter taste. A portion of this was dissolved in a drop of acetic acid, diluted with water, and injected into the peritoneum of a frog. In five minutes, the animal was violently convulsed; and it died in fifteen minutes, after a succession of tetanic spasms. This experiment was repeated in the presence of Dr. Paley and Mr. Pearce, at Peterborough. Another portion of the resinoid matter was treated with a drop of concentrated sulphuric acid, and then with peroxide of manganese, by which means the characteristic reactions of strychnine were observed; but the effects were somewhat obscured by the presence of organic matter (probably sugar), which was darkened by the sulphuric acid. This was removed by adding ten drops of concentrated sulphuric acid to the remainder of the resinoid matter, and allowing it to stand in a warm place for three days, during which time all the impurities were charred. The black acid liquor was then diluted with water, supersaturated with ammonia, and again treated with ether. The ethereal solution gave, on evaporation, nearly pure strychnia, which weighed 0.6 grain. This exhibited a brilliant play of colours (purple to orange red) with sulphuric acid and peroxide of manganese; and when a little of it was dissolved in a drop of sulphuric acid on platinum foil, and submitted to the action of a galvanic current by connecting the foil with the positive pole of a battery, and the acid with the negative, it produced a splendid purple blue, which is characteristic of the action of nascent oxygen on strychnia.

"The solid matters from the stomach which were left on the filter after the action of alcohol, were diffused through warm water and filtered. The clear solution was then treated with sulphuretted hydrogen; and it gave a dirty white precipitate,

which I found to be sulphide of zinc. Lastly, the stomach and undissolved residue were boiled with dilute muriatic acid, in the presence of a strip of copper foil. The copper became coated with a silver-like layer of mercury; and when washed, dried, and heated in a glass tube, it yielded a globule of mercury, which was given to Dr. Paley.

"The results of this investigation were, that the stomach contained strychnia, a preparation of zinc, and mercury.

"The same treatment was applied to the contents of the intestines, and strychnia was also found in very small quantity.

"The liver also yielded it in small proportion, as well as a trace of mercury.

"The blood was examined in the same way, but with negative results; for not only was the ethereal residue free from bitter taste, but it had no action on a frog, although that animal is affected by the 0.0005 or the 1-2000th of a grain of strychnia.

"The urine amounted to twenty-two fluid drachms. It had a very pale amber colour, was slightly acid to litmus-paper, and had a specific gravity of 1014. When it was boiled, it became very turbid, from the presence of albumen. It was precipitated with subacetate of lead, filtered, and the excess of lead removed by sulphuretted hydrogen. After the separation of the sulphide of lead, the clear solution was evaporated nearly to dryness. It was then treated with ether; and the ethereal solution gave a bitter residue, which in very small quantity convulsed a frog. The residue was acted on with a few drops of concentrated sulphuric acid, in order to destroy impurities. The strychnia which was then obtained was nearly pure. It weighed 0.3 grain, and gave, with sulphuric acid and peroxide of manganese, as well as with the galvanic test, the brilliant reactions of strychnia. Three frogs were convulsed with it in less than five minutes, and were dead in from ten minutes to a quarter of an hour.

"These results are highly satisfactory, for they furnished undoubted evidence of the absorption of strychnia during life, and the secretion of the poison unchanged with the urine.

"Lastly, I found that the packet of powder, marked 'Battle's vermin-killer', consisted of flour, a little sugar, strychnia, and Prussian blue. Ten grains of the powder furnished to ether 2.3 grains of strychnia—a quantity that represents 23 per cent. of the poison.

"The chief points of interest in this investigation are—

"1. Strychnia was easily detected in the stomach, notwithstanding that the dose taken must have been small, if we may judge from the long duration of the symptoms. In this respect, the results accord with every case of strychnia poisoning I have had to investigate.

"2. The cutting open of the stomach, and the shaking of it about with its contents in a jar, had no influence whatever in the success of the analysis.

"3. The urine contained the poison in large quantity, notwithstanding that the blood from the jugular veins showed no trace of it—a circumstance that would indicate a rapid elimination of the alkaloid by the kidneys. "H. Letheby, M.B."

Remarks. It was proved at the inquest that the girl herself bought a packet of "Battle's vermin-killer" the day before she died; and that she gave some bread and butter to the brother, who had the fits of stiffness, but recovered, about twenty minutes before their occurrence. The poison was probably not taken at breakfast mixed with the food, as no other members of the family, all of whom partook of the same, were affected; and the whole remaining portion of it was given to different animals, with a negative result. My own opinion is, that she took it intentionally, either just before she left her home, about eleven, or even in the chapel. Supposing the former to be true, the unusual length of time—viz., three-quarters of an hour—which elapsed before its effects were produced, arose, most likely, from the stomach being full at the time of meat and fatty matter. It is probably from the same cause that the absorption of the poison into the system was so slow, and that death was deferred for nearly six hours.

In this highly interesting case, Mr. Pearce and myself had the rare opportunity of closely watching, for more than three hours, the symptoms produced by a poisonous dose of strychnine. Mr. Pearce was with her during three of the principal attacks; and I was with her during two, including the last fatal one.

On reviewing the case, I should say that the peculiar symptoms which led us to feel confident she was poisoned, notwithstanding the most positive assurance both from the patient herself and her parents to the contrary, were—1. The singular fact that three members of one family had all suffered from fits within so short a period; 2. The very peculiar convulsive twitchings of the limbs, brought on by either touch or noise; 3. The severe paroxysms of tetanic rigidity, not permanent, as in true tetanus, but coming on at intervals; 4. The perfect consciousness of the patient throughout the whole attack, with the exception of the very brief periods whilst the respiration was suspended; 5. The death by suffocation, and the rigidity afterwards; 6. That the symptoms, taken together, did not resemble those produced by any known disease.

British Medical Journal.

SATURDAY, AUGUST 4th, 1860.

OUT-DOOR RELIEF.

As the pressure upon the funds of the charitable becomes more severe, it is observable that one of the most necessary persons on the staff of a hospital is he who concocts the weekly begging advertisements. The public have ceased to respond sufficiently to mere pitiful applications for increased alms; they demand some other stimulant. Any account of real work done is sure to meet with the approval of the British public; it was a lucky hit, therefore, to parade before the community the number of out-patients relieved in this or that hospital. The example once set, it was pretty sure to be followed; and now there appears to be a regular race between certain hospitals with respect to the crowd of out-patients they have been able to relieve in a given time.

Some of these statements are of so extraordinary a kind, that they really require a little examination. When we see statements to the effect that "two thousand out-patients have been relieved during the week", are we to understand that that number of *new* cases have presented themselves in the out-patients' room, and have been thoroughly examined? or does it merely mean that that number of cases, old and new, have passed before the attendant medical officer—the old with a mere injunction to "go on as before", and the new with a superficial glance and a stereotyped prescription? We can understand the extreme rapidity with which the unfortunate medical officer manages to get over the ground in the latter case; but is it quite fair to assume that he has *relieved* his little army of invalids? Is it quite just that such a strain should be put upon the brain of any medical man? If our noble science is worthy of the estimation in which we trust and believe the public hold it, do we not run the risk of cheapening our worth by thus making it appear that, to use an expressive vulgarism, we "knock off our work" at such a railroad pace? Will the thinking part of the public be inclined to put much faith in the time taken by a conscientious practitioner in examining any one of his patients, if his brother practitioner deliberately states in the public prints, that in the same time he has been enabled to do justice to some twenty poor persons? The conclusion must be, either that the former is fleecing the well-to-do, or that the hospital officer is "scamping" the indigent.

But, it will be said, the charitable public do not reason at all, and they only take the account of a large increase of relief as an incentive to increased aid on their parts. We should regret very much to find such to be the argument urged in support

of what we cannot but believe is a pious fraud upon the country. The poor cannot be examined one whit more speedily than the rich; and we say without hesitation, that there is no hospital in London whose staff is by any means large enough to justify the very large return of out-door patients publicly advertised as having been weekly "treated". We know it is the custom in some hospitals to hand over the out-patients to the third year's students. There may be very competent persons among these gentlemen; but we scarcely think their employment in this manner can be justified.

As long as the public can be induced to believe that the good accomplished in the out-door department of our hospitals is best tested by the parade of high figures, so long will those hospitals suffer whose medical officers give a fair amount of time to their work. It is needless to say that fifty cases per week, thoroughly understood, would represent a far greater amount of real good done than two thousand cases merely passed in review. If the public would only use its common sense in this matter, the evil we complain of would be soon remedied.

THE WEEK.

A German degree in medicine has, it must be confessed, not a very creditable reputation among the English medical public. Yet we have been convinced that to condemn the continental degrees held by English practitioners in the wholesale manner which is adopted by some, is far too sweeping and unjust. The fact is, that the disgrace has been brought on those universities who are too honourable to sell their degrees for mere money, by the injudicious and unjustifiable conduct of some of their neighbours; and still more by those unscrupulous individuals in this country, who advertise to the unwary medical public that they can procure them German degrees, without trouble, on the mere payment of the fees. Dr. Meissner, a Doctor in Philosophy of Heidelberg, has addressed a letter to the *Times*, in compliance with the request of the Dean of the Philosophical Faculty there, for the purpose of giving "an answer to the numerous inquiries which he receives from this country from all kinds of professional quacks who are desirous of obtaining degrees." We are glad to find at least one of the universities—for Dr. Meissner includes Berlin and Bonn in the same category—publicly repudiating the insinuation of venality. We wish that the leaders of the medical faculty in the different German universities would come forward in the British medical press, for the purpose of denying the assertions as to the possibility of easily gaining their degrees, which are often made, and, we fear, too often believed, in this country.

At the meeting of the Academy of Sciences on July 9, a memoir was presented by M. Courbon, first-class surgeon in the French navy, who had accompanied an expedition sent by order of the Emperor to explore the Red Sea. M. Courbon stated that he had investigated both the apparent and the real salubrity of the countries visited, as far as he had opportunity. He had also investigated the medical geography, taking special notice of the diseases peculiar to each district, as well as of the relative frequency, severity, difference, etc., of the diseases common to various countries. He had also made researches on the so-called Abyssinian chorea or *tigretier*, as well as on certain forms of mental alienation common in Abyssinia. A special series of researches had also been made by him on the Abyssinian anthelmintics, especially the *mesenna*, a remedy but little known.

The article in our news-columns, headed Fees to Medical Witnesses at Inquests, shows in a very forcible light the manner in which the profession can maintain their rights if they will only act in union. In one instance, we find all the practitioners in a town refusing to make a *post mortem* examination, and thereby compelling the jury to return an open verdict. In the other, the physicians of another county are represented as having entered into a formal determination "to make no *post mortem* examination under a fee of twenty dollars to each physician," and as carrying out this determination steadily and successfully for a period of sixteen years. We think that the conduct of Drs. Atlee, Cross, Grant, and their colleagues, is deserving of the highest commendation.

Editor's Letter Box.

PAYMENT OF POOR-LAW MEDICAL OFFICERS.

Letter from S. Drew, M.D.

Sir,—The proverb informs us that the devil may be painted too black; perhaps, therefore, even a Board of Guardians may be represented over shadily. Will you allow me to suggest that, in your editorial portrait of the guardians of the Wortley Union in the Journal of July 14th, you have laid on the lamp-black rather too liberally.

Having been for some weeks in temporary medical charge of the parishes of Ecclesfield, Tankersley, and Wortley (pending a redivision of the medical districts of the union), and having by me the District Medical Reports for those parishes during the past year, I am in a position to correct two or three statements in the leading article to which I refer.

The Wortley Union had been hitherto divided into two districts only for medical relief. It has now been divided into three—Wortley, Ecclesfield, and Bradfield. The population of the newly formed district of Wortley, instead of being, as stated, over *eight* thousand, is really about *three* thousand. (Perhaps this was a typographical error.) It is by no means a pauperised district, the rate of wages being high. Although both Bradfield and Wortley appear to be very extensive districts, much of this is more apparent than real; many thousands of acres in the remote part of both districts being utterly uninhabited moorland.

The number of cases of sickness attended in the Wortley district during the past year, according to the medical officer's returns, is under twenty; so that, should Mr. Griffin's proposal for a payment of five shillings a case and mileage be carried out, less would actually be paid for this district than the salary of thirty pounds now offered by the guardians. The number of cases in the Ecclesfield district has been one hundred and fifty, which, with a salary of £30, makes the payment four shillings per case. This, insufficient as it may be, is above the average of the kingdom, which is under three shillings per case. The salary for Bradfield is £40; I do not know the number of cases, but believe it much as in Ecclesfield.

There was no competition, actual or expected, for the appointments, which were given to the surgeons resident in, or close to, the respective districts.

I am as strenuous an advocate as any man for poor-law medical reform; but do not think this likely to be advanced by indiscriminate censure of Boards of Guardians: especially when, as in the present case, they were taking steps in the right direction, by diminishing the area of the medical districts, and actually increasing the conjoint salaries.

The circumstances of medical districts in various parts of England vary so exceedingly as to area, population, accessibility, and, above all, in the proportion of paupers (particularly of medical paupers) to the gross population, as to make it very difficult to fix any equitable standard of payment for all alike. It is, however, most important that as near an approach to

this as possible should be made; and every poor-law medical officer should aid in doing it by joining the Reform Association.

I am, etc.,

S. DREW, M.D.

Chapeltown, Sheffield, July 28th, 1860.

THE DIAGNOSIS OF POST MORTEM CRANIAL ECCHYMOSIS.

LETTER FROM W. A. BRYDEN, M.D.

SIR,—I trust you have received replies to Mr. Gibson's queries, published in this week's JOURNAL, from gentlemen more conversant with such cases than I am; but if not, permit me to say that I think there can be no doubt but that the presence of coagula in and under the scalp of the temporal ridge indicated that external violence, accidental or otherwise, had taken place either before or very soon after death.

I am, etc., W. A. BRYDEN.

Mayfield, July 31st, 1860.

HAY-FEVER.

LETTER FROM T. OGIER WARD, M.D.

SIR,—I have read the letter of L.R.C.P., in the JOURNAL of July 7th, inquiring for a remedy for hay-fever, and I have much pleasure in forwarding the following prescription, which has been found so useful that several of the friends of the patients to whom I first gave it have requested a copy.

It is to be used as a lotion to the nostrils, applied on a sponge or rag (care being taken to sniff up a small quantity), as soon as the first symptoms of irritation are perceived.

℞ Acidi hydrocyanici (Scheele's) ℥ss; sp. am. c. ℥i; tinct. aconitæ ℥ss; aquæ destill. ℥vi. M. Fiat lotio sæpe et assidue utenda.

I am, etc., T. OGIER WARD.

Winkfield, July 30th, 1860.

Parliamentary Intelligence.

HOUSE OF LORDS.—Thursday, July 26th, 1860.

Medical Acts Amendment Bill.—This Bill was read a second time.

Scotch Medical Faculty.—Lord BROUGHAM presented a petition from the members of the Glasgow Medical Faculty, complaining of a provision in the Census Bill for Scotland, which imposed on them the duty of making multifarious returns without remuneration in respect of all who had been placed under their care, and praying their lordships not to pass the Bill with that clause.

Friday, July 27th.

Medical Acts Amendment Bill.—This Bill passed through Committee.

County Coroners Bill.—Lord CHELMSFORD moved the second reading of this Bill, the objects of which were to make provision with regard to the election of coroners, and to alter the mode of remuneration by substituting salary for fees. The fees to coroners were regulated by the 25th Geo. II, which enacted that for every inquest duly held the coroner should receive from the courts of quarter sessions the sum of 20*s.*, and in addition 9*d.* for every mile he travelled from his place of abode in order to hold the inquest. The courts of quarter session had the discretion of deciding whether an inquest had been duly held, and regulations had in some cases been framed which pressed hardly on the coroner. In some counties there was a rule that unless the coroner was set in motion by the police, he should not be entitled to his fees; and actually in one county, the magistrates had decided that where an inquest was held on a child, and it turned out the child was overlaid by the mother or the nurse, they would not allow the fees. There was no doubt that in some cases coroners had been in the habit of holding inquests unnecessarily, for the sake of the fees; and, on the other hand, there were cases in which they had been restrained for fear that the fees would be disallowed. A commission sat on the subject in 1858; and, as the result of their investigations, recommended that coroners should be paid by salary instead of fees. This the Bill proposed to carry out, the salary to be not less than the average of the fees for the previous five years; and there was a provision that if the coroner and magistrates could not agree to the amount, the question should be referred to the decision of the Secretary of State. Of course there would be danger of the coroner not being sufficiently alert in the discharge of his duties when paid by salary; but this would be remedied by giving power to the Lord Chancellor to dismiss a coroner for incapacity or misconduct. The noble lord then moved the second reading of the Bill.

The LORD CHANCELLOR said that when he had the honour of holding the office of Chief Justice of the Court of Queen's Bench, complaints were made to him of coroners holding inquests unnecessarily, and also of their abstaining from holding inquests where they were required. He supported the Bill.

The EARL OF POWIS thought ten years should be substituted for five, as the time for making the periodical revision of the salary.

Lord DUNGANNON observed that most inefficient persons were often appointed to the office of coroner; and he had himself witnessed a case in which a coroner was unable to sum up the evidence in a case of homicide, and point out to the jury the distinction between murder and manslaughter. He thought coroners would be better chosen by the magistrates than by the freeholders. Payment by salary would, he thought, be far preferable to payment by fees; and he should support the second reading.

The LORD CHANCELLOR remarked that freeholders, however small their freeholds, had the right of voting for a coroner—a right which they had held from a remote period, even before the Conquest.

The Bill was then read a second time.

Monday, July 30th.

County Coroners Bill.—This Bill passed through Committee.

HOUSE OF COMMONS.—Monday, July 30th, 1860.

Criminal Lunatic Asylums Bill.—The Lords' amendments to this Bill were considered, and agreed to.

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

** In these lists, an asterisk is prefixed to the names of Members of the Association.*

BIRTHS.

Of a son, the wife of—

*ASHDOWN, George, Esq., Surgeon, Northampton, on July 30.

Of daughters, the wives of—

COCK, Fredk., M.D., 1, Westbourne Park Terrace, on July 24.

HEWARD, T. Spencer, Esq., Surgeon, 56, Grosvenor Street, on July 22.

MERRYWEATHER, R. C., Esq., Surgeon, at 4, Euston Grove, Euston Square, on July 25.

O'FLAHERTY, Thomas A., M.D., 2, Baker Street, on July 24.

MARRIAGES.

DEAS, David, M.D., C.B., etc., Inspector-General of Hospitals and Fleets, to Margaret, youngest daughter of the late William HEPBURN, Esq., at Hollycot, Lasswade, on July 31.

DEATHS.

HEWARD. On July 23rd, at Langley Park Cottage, Bucks, Sophia A., infant daughter of T. S. Heward, Esq., Surgeon.

MACLAGAN, David P., M.D., Assistant-Surgeon H.M.S. *Icarus*, eldest son of *Douglas Maclagan, M.D., President of the Royal College of Surgeons of Edinburgh, at Ruatan, Bay Islands, Honduras, of yellow fever, on June 27.

PRING. On July 25th, at Weston-super-Mare, aged 5 weeks, John Hole, youngest twin son of J. H. Pring, M.D.

APPOINTMENTS.

BUCHANAN, George, M.D., elected Lecturer on Anatomy in Anderson's University, Glasgow, in the room of his late father, Dr. M. S. Buchanan.

PASS LISTS.

Royal College of Surgeons. Members admitted at a meeting of the Court of Examiners, on *July 31st*:—

Atwood, W. A., Aberystwith
Bartlet, George, Culsalmond, Aberdeenshire
Bell, Thomas, Uppingham, Rutland
Burrows, Robert T., Westbourne Park Place
Coleman, E. W., Portsdown Road, Maida Hill
Grant, B. J. M., Newcastle-on-Tyne
Hammond, F. J., Sherborne
Hocking, Joseph, St. Ives
Houghton, F. W., Portsmouth
Lovegrove, J. F., Maidenhead
Marsh, Henry T., Upton-on-Severn
Merry, Robert Rosier, Hemel Hempstead
Monckton, Alfred, Brenchley
Pocklington, E., Walesby
Pridham, John W., Llanelly
Sequeira, J. S., Jewry Street
Smith, Absalom H., Palermo, Canada West
Tanner, Mark Batt, Exeter
Tofts, Henry, Cambridge

Wednesday, August 1st.

Blake, Thomas Wm., Hurstbourne Tarrant
Cape, Joseph T., Cheltenham
Chune, H. C., Colebrookdale, Shropshire
Comerford, Edmund Henry, Kilkenny
Dutton, Douglas J., Bristol
Fagge, C. H., Guy's Hospital
Foley, James Joseph, Cork
Keele, C. F., Highbury
Lyon, I. B., Euston Square
Mallett, William James, Bolton-le-Moors
Nedwill, C., Magherfelt
Reid, James, Exeter
Richards, Jno. S. C., Bedford Square
Smith, Robert H., Halifax
Staples, T. P., Wexford
Trotter, Arthur E. H., Stockton-on-Tees
Truman, E. B., Nottingham
Williamson, Wm. H., Wimbledon
Williams, Richard, Kingston Bagpuize

Apothecaries' Hall. Licentiates admitted on *Thursday, July 26th*, 1860:—

Evans, Benjamin, Duffryn, near Newcastle Emlyn
Gimson, William G., Walton, Leicestershire
Harper, Henry L., St. Luke's Hospital
James, Edwin M., Shrewsbury
Samuels, Arthur, Liverpool

For an assistant:—

Bailey, Edward Lee, Maida Vale

The following gentlemen also, on the same day, passed their first examination:—

Curnie, Decimus, King's College
Date, Wm., King's College
Gwynn, Edmund, London Hospital
Lumley, Bartholomew, King's College
Meggy, Fred., Guy's Hospital
Morgan, Herbert M., King's College
Morrish, Thomas F., St. Bartholomew's Hospital
Owen, Richard Jones, St. Bartholomew's Hospital
Taylor, D., Bury, Lancashire

Testimonial to a Poor-Law Surgeon. A circumstance, highly honourable to the poor and to their medical attendant, has recently occurred at Barnsley, a parish in the Cirencester Union, Gloucestershire: Mr. Iles, surgeon, having resigned his appointment, the inhabitants of Barnsley, whose respect he had won by his skilful and assiduous attentions to them when sick, presented him with a proof of their gratitude in the form of a handsome ormolu clock, with the following inscription:—"To Albert Iles, Esquire, M.R.C.S., from the parishioners of Barnsley, Gloucestershire, in grateful acknowledgment of his unceasing attention, kindness, and liberality to the poor, as medical officer of the Cirencester Union. June 1860."

The Hunter Statue. At the last meeting of the Committee for erecting a statue to the memory of our great physiologist, Mr. South reported that he had received a letter from Dr. Henry Bowditch, of Boston, U.S., from which we extract the following:—"I send by my excellent young friend, Dr. Parks, of this city, what I hope will prove only the first instalment of the American contribution to the Hunter memorial—viz., £45. Perhaps you may be aware that at the late meeting of the American Medical Association, a National Committee was appointed to collect for the Hunter Testimonial. The money I now send by this opportunity (although it will be a part, I trust, of a large fund) was collected in the 'Old Bay State', without reference to the nation." Mr. Weekes, the eminent sculptor, has already commenced his work, and from what we know of him, there is no doubt the subject in question will be one of his happiest efforts.

EXAMINATION FOR THE INDIAN SERVICE, JULY 1860.

Natural History, etc. Monday, July 9, 1860.—10 to 1 o'clock. Dr. Hooker. (Answer five or more of the following questions.) 1. What are the botanical characters and properties most prevalent in the natural orders *Laurineæ*, *Rosaceæ*, and *Cucurbitaceæ*? Give examples of the latter used in medicine. 2. Enumerate the principal vegetable narcotics, the plants that produce them, and the countries they come from; and classify them according to their therapeutic action. 3. In what form are the following articles imported? and how would you distinguish good from bad samples of each?—ipecacuanha, rhubarb, sarsaparilla, borax, nitre, and antimony. 4. Describe the structure of a dicotyledonous seed, and indicate the relation of its several parts to the seed-vessel. 5. Describe the structure of the trunk of a monocotyledonous plant. 6. Define the terms hypogynous, perigynous, epigynous, thalamifloral, calycifloral, and corollifloral. 7. Of what parts does a grain of wheat consist? What is the minute structure of its contents? and what are its chemical constituents? 8. On what do the peculiar values of milk and eggs depend, as articles of food? 9. Contrast the structure of the brain in the higher and lower mammals. 10. Describe the respiratory apparatus in birds, reptiles, and fish. 11. What parts of what animals produce silk, catgut, silkwormgut, whalebone, and isinglass? 12. Give accurately and tersely the meanings of the following words:—Biology, organism, type, diagram, axis, affinity, analogy, homology, ontology.

Surgery. Monday, July 9, 1860.—2 to 5 o'clock. Mr. Paget. 1. Describe the usual characters, manners of formation, and treatment of perineal and scrotal urinary fistulæ. 2. What are the most frequent causes and consequences of menorrhagia? and how should it in each case be treated? 3. In what diseases is blood in the urine a prominent or important symptom? and what are the best signs for the diagnosis of each? 4. Describe the most frequent characters of scirrhous cancer of the female breast, and its diagnosis from the diseases that most resemble it. 5. Describe the processes of separation of dead bone, 1st, from the outer layers of the wall of a long bone; 2nd, from the inner layers; 3rd, from the cancellous tissue; and the processes of repair by which the separation may in each case be followed. 6. Describe the most frequent appearances of varicose veins in the leg, and of the diseases of the integuments with which they are most commonly complicated. State the best palliative and curative treatments of each. 7. Describe the principal morbid conditions of stumps after amputation, and the appropriate treatment of each.

Anatomy and Physiology. Tuesday, July 10, 1860.—10 to 1 o'clock. Mr. Busk. 1. Describe the structure, relations, and connexions of the medulla oblongata; and state what is known respecting the functions of its different parts. 2. The gastrocnemius and soleus having been removed, describe the dissection of the back of the leg from the upper margin of the popliteus to the heel,—describing the parts in the order in which they occur, and noticing particularly the relative position of the tendons, vessels, and nerves behind the ankle-joint. 3. Describe the form, structure, and relations of the thyroid gland. 4. Give an account of the cartilages of the larynx; their articulations with each other, and of the ligaments connecting them; and point out the differences of structure which exist among the different cartilages and ligaments. 5. Describe the process of ossification in a long bone and in the cranial bones; and describe the structure of fully formed bone. 6. Explain the mode in which the images of external objects are formed on the retina, and how real magnitudes and distances are estimated by the sense of sight.

Medicine. Tuesday, July 10, 1860.—2 to 5 o'clock. Dr. Parkes. 1. Describe the physical signs in a case of phthisis, from the first deposition of tubercle to the formation of a cavity as large as the fist. What should be the hygienic and medicinal treatment during each period of the disease? 2. Describe the anatomical characters of phthisical ulceration of the larynx. How would you treat a case of presumed chronic laryngitis without ulceration? 3. How would you diagnose a case of fatty heart without valvular disease? What is the treatment? 4. What are the symptoms of effusion of blood, sudden in occurrence and considerable in amount, in the following situations?—*a*. In the right corpus striatum and optic thalamus. *b*. In the left lateral ventricle. *c*. In both lateral ventricles. 5. What diseases are usually attended with enlargement of the spleen? How would you recognise such enlargement? 6. Under what

circumstances do copper and lead occasionally find their way into the body? What are the symptoms produced in each case? and what should be the treatment?

Statistics of Life. Besides his quarterly report published about a month after the close of every quarter, the Registrar-General of England issues a more elaborate annual report, which takes much time to prepare; the report for 1858 has just appeared. In Great Britain, the estimated population in the middle of 1858 was 22,626,334, and the excess of births over deaths in the year 246,488. 759,676 children were born alive, 351,346 persons were married, and 513,188 died; so that, on an average, upon every day in the year 2,080 children were born, 962 persons married, and 1,405 died, leaving a gain of 675 as the result of the day. The birth rate for Great Britain was 33·57 to 1,000 living, the death rate 22·68, the marriage rate (persons married) 15·52. For easy recollection, it may be noted that rather more than twice as many are born in a year as are married, and the deaths should not be so high as midway between those two numbers. To 1,000 people living in the two countries the births in the year were 34 in Great Britain, 27 in France—a very striking difference; the deaths 23 in Great Britain, 24 in France; the persons married 15·5 in Great Britain, 16·9 in France. In Scotland the marriages, if all registered, were not so numerous as in England; the births were almost exactly at the same rate; but the percentage of deaths in Scotland was only 2·047, in England 2·303. Turning now to England and Wales only, we learn that to every 1,000 girls 1,045 boys were born, and 102 males died to every 100 females, the average of 21 years being 103; but there are more females living in England than males, and out of equal numbers living 105 males died to every 100 females, the average being 107. The births are always most numerous in the first half of the year; in 1858 they were as 2,091 to 1,909 in the two half years. To every 100 women living of the age 15-45 there were 14·3 births in the year. 43,305 children were born out of wedlock in 1858, or one in every 15 of all the children born alive; 106·2 boys were born illegitimate to every 100 illegitimate girls, while among children born in wedlock the boys were only 104·4 to 100 girls. The marriages in 1858 were below the average. Marriages are celebrated in England and Wales in 12,350 churches, and in 4,072 chapels not belonging to the Establishment, 505 of these being Roman Catholic. There were 128,082 marriages celebrated in churches, and 27,988 otherwise, 6,643 being of Roman Catholics, and 9,952 in the Registrar's office, and not at any place of religious worship. The marriages of minors increase. The proportion of minors in 10,000 persons marrying increased from 885 in 1843 to 1,212 in 1858. To every 130 marriages in 1858 by license there were 728 by banns, which may be taken as the proportion of marriages of the higher and middle classes to those of the lower. In 1841, 41 in 100 of the persons married had to sign the register with their mark; in 1858 only 32; the improvement is most striking among the women. In 1858, 73 in 100 men, and 62 in 100 women, wrote their names on this important occasion. The mortality of the year was high. The deaths in the chief towns were at the rate of 2·655; in the country districts 2·006. The deaths in the army abroad were more than usual, in consequence of the Indian mutiny. The average strength of the army abroad was 111,730 and the deaths abroad were no less than 7,363—more than double the number in the previous year, when the strength was 77,676. The number of merchant seamen at sea in 1858 is calculated at 177,832, and 3,486 deaths at sea among this body were reported to the Registrar-General of Merchant Seamen, with an account of their effects. This would be 19·6 in 1,000—a high rate among men of their age and physical advantages. This return does not include seamen dying ashore in foreign parts; the account of their effects is sent to the Board of Trade by the consuls. The captains of vessels return the births of 112 English subjects in British vessels at sea, and 390 deaths.

Association of Medical Officers of Asylums and Hospitals for the Insane. At the meeting of this Association, held lately in London, under the presidency of Dr. Bucknill, it was arranged that the meeting in 1861 should be held in Dublin; and Dr. Lalor, resident physician of the Richmond District Asylum, was chosen president-elect.

The Medical Council. Dr. William Henry Porter, Professor of Surgery to the Royal College of Surgeons in Ireland, has been elected the representative of that body in the General Council of Medical Education and Registration, in the room of the late Dr. R. C. Williams.

FEES TO MEDICAL WITNESSES AT INQUESTS.

In the American *Medical and Surgical Reporter* for June 30, we find an instance recorded illustrative of the manner in which medical witnesses are sometimes treated in America as well as elsewhere, as well as of praiseworthy conduct on the part of the medical men referred to.

On June 21, the body of an unknown man was found drowned at Newark, county of Essex, State of New Jersey. A jury was summoned by Mr. C. W. Benjamin, coroner of the county; and Dr. J. A. Cross was requested to make a *post mortem* examination. In reply, Dr. Cross sent to the coroner the following letter:—

"Dear Sir,—You have requested me to ascertain, by *post mortem* examination, the cause of death of a man now lying dead in Tolles' barn, in Wilbur's alley, in this city. I have been at the barn, and removed the lid from a coffin lying there. Within the coffin is a corpse in an advanced stage of decomposition, bloated with gas and water. There are some signs of drowning and some marks of violence.

"There is in this case an important *medico-legal* investigation to be made, one which may involve the charge of murder. The investigation should be as carefully made as the responsibility demands. The examination external of the body and of the skin, the removal of the clothes, and the internal examination of the viscera, of the brain, thorax, and abdomen, in a body putrid and disgusting, would require many hours of severe labour. So heavy is the body, that to lift it and perform the service in any proper manner, would require the labour of two or more persons.

"The Board of Freeholders, by their recent action in requiring the work of all *post mortems* to be made for the fee of five dollars, have virtually limited the authority of the coroner to employ but one person. In this dilemma, I have asked the cooperation and assistance of Dr. G. Grant, and it is in conjunction with him that I decline the service altogether.

"Most respectfully yours, J. A. Cross, M.D."

The coroner, in a letter to a public paper, states that, after the refusal of Dr. Cross, he called upon five other physicians, all well informed in *post mortem* examinations, and that they all refused to make the examination on the same grounds as Dr. Cross. The jury therefore, in rendering their verdict, stated themselves to be unable to ascertain the cause and manner of death. In the same periodical (the *Medical and Surgical Reporter*) for July 7, Dr. Washington L. Atlee of Philadelphia publishes a letter in which he intimates that Drs. Cross and Grant might have recovered by law a proper compensation. He further says:—

"The legal principle on this question was decided by the hon. judge Ellis Lewis, sixteen years ago in Lancaster county. Having made an autopsy October 1843, at the request of the coroner, I presented a reasonable bill to the commissioners. In their desire to curtail expenses, they ordered a less amount to be paid; but as this was not an adequate remuneration for the services rendered, I requested a reconsideration. This was granted, but without a different result. The amount they offered was given merely as a favour, as the law, in their opinion, did not authorise them to pay anything. In order to test the rights of the profession, I instituted suit against the Board for the whole amount of the claim. The jury gave it in my favour. The opinion of Judge Lewis was clear and pointed, and may be read in the *American Journal of Medical Sciences*, volume xii, p. 538. I believe this is the first time this principle has been judicially settled.

"Immediately on the refusal of the Commissioners to pay a proper fee, I secured the signatures of the physicians of Lancaster to a paper agreeing to make no *post mortem* examination for the coroner under a fee of twenty dollars to each physician. This, I believe, has been maintained in Lancaster county ever since, and as an autopsy sometimes requires the presence of more than one physician, a single examination has cost the county as high as forty and sixty dollars.

"With the view of encouraging the Essex county physicians to maintain their position, and also of calling attention to the legal decision of this question, I communicate these facts.

"Very respectfully yours,

"Washington L. Atlee."

The following is the opinion of the Honourable Judge Lewis, referred to by Dr: Atlee:—

"This is an action to recover compensation for professional services rendered by the plaintiff, as a physician, at the request

of the coroner, upon a *post mortem examination*. It is the duty of the coroner, in cases of sudden death, or where any are slain, to hold an inquest, *super visum corporis*, to inquire into the cause of death, 'by the mark on the neck, or by a mark on any of the limbs, or *by any hurt found on the body*.' 4 Ed. 1. The statute of Edward IV., regulating the duties of the coroner in this respect, is in affirmance of the common law, one of the great advantages of which is, its constant adaptation to the progress of business, the advanced state of the sciences, and the habits of the people. In this enlightened age, a coroner who would undertake to consign to the grave the body over which he had held an inquest, without availing himself of the lights which the medical science has placed at his disposal, would be regarded as unfit for the office, and unworthy the age in which he lives. A thorough examination, aided by the highest professional skill within reach, is absolutely necessary to the administration of justice. Without such examination, groundless suspicions may be entertained, and prosecutions commenced, at once cruel to the objects of them, expensive to the county, and wasteful of the time and talents of all persons engaged in them. But this is not all. Without a thorough examination of the body, and a complete demonstration, from the evidence thus in the power of the commonwealth, that the death was caused by violence, the guilty agent cannot be convicted. When, from ignorance in the examination of the body, the cause of death is left in doubt, the accused will, in general, escape the just punishment due to his crime; because in all cases of doubt, he has a right, under the law, to demand an acquittal. Thus, the guilty are again let loose upon society, and the public is deprived of that protection which the laws were intended to provide. There can be no doubt of the duty of the coroner to require such aid as was given in this case; and it seems equally clear that his powers are commensurate with his duties.

"It is true that medical witnesses may be called upon to give evidence of any *facts* within their knowledge, and also of the *opinions* which their researches and experience have enabled them to form on questions of science pertinent to the case. But they cannot be compelled to devote their time and talents, without compensation, to the unpleasant duties of a *post mortem examination*—to assume the responsibilities of an investigation, upon which the life of a fellow being may depend—and to encounter the painful ordeal of a thorough cross-examination, generally conducted by gentlemen of science and courtesy, but sometimes by individuals not remarkable for either.

"Even where nothing further is asked of the medical practitioner than his attendance as a witness, his case is one of peculiar hardship. His business is of a character which requires the employment of his own skill and judgment. It is in these alone that his patients confide, and no deputy or substitute can supply these qualities. To him the ordinary fee of a witness is a very insufficient compensation. 'The same policy which exempts medical practitioners from attendance on other public duties may suggest the propriety of allowing them some adequate indemnity when their assistance becomes indispensable; and this not only for their private and immediate advantage, but ultimately for the public benefit; for, if properly remunerated for their attendance, practitioners of a superior class would not be unwilling to devote some portion of their time to the assistance of public justice: whereas, under the existing system, it is notorious that all who can will avoid the burden; and the duty, therefore, devolves on those who are least competent to its execution. This evil is particularly apparent on coroners' inquests, where the opinion of a shop boy has often been allowed to determine a question *in limine*, which, properly investigated, might have required the first science to obtain a satisfactory result.' 1 Par. and Fonbl. Med. Jur. 157.

"As attendance is more burdensome on a professional man than on others, so also it is more frequently called for. Other men are only called to testify to *facts* within their knowledge. The professional man is called upon for his *opinions*. Those, therefore, who stand highest in public estimation, and whose time is most valuable to themselves and their patients, are the most frequently called to discharge these unprofitable duties. A consideration of these circumstances, has doubtless led to the practice in England of allowing medical witnesses more than the usual witness fees, as a compensation for the loss of time. (Willis *v.* Peckham, 4 Moore; Severn *v.* Olive, Mich. Term, 1821, C. B.) Two guineas per day is the usual allowance to medical witnesses in England, 'but no allowance is made for the time spent in making chemical experiments, *for the purpose of perfecting themselves in the science which they profess*, because it is alleged that they ought not to *acquire their knowledge at the expense of the parties*.' (Ap. to 3 Paris and Forb. p. 203; Severn *v.* Olive.) How far they should be allowed for the time spent in the application of that knowledge to the particular case under investigation is a question entirely different. The principle by which they are compensated for their loss of time as witnesses, and considerations of policy and justice, sanction an allowance for the loss of time spent in a *post mortem* examination.

"This expense is a necessary incident to the administration of justice for the county. The coroner of the county is charged with the duty of holding the inquest, and has, as an incident to his authority in this respect, the power to summon such aid as the purposes of justice may require. In doing so, he acts not in his individual capacity, but in his official character as the officer of the county. 'The power to order, implies the promise to pay.' (Commissioners *v.* Hall, 7 Watts, 291.) It is upon this principle that the county is liable for the contingent expenses of the court—for the firewood, candles, etc., consumed in the court-house—for the expenses of keeping a jury together at a hotel when ordered by the court, as is usual in capital cases—as for the expenses of medical services ordered by the court for a juror suddenly ill. (7 Watts, 291.)

"The plaintiff is, therefore, entitled to recover in this action, such a sum as the jury shall deem a reasonable compensation for his services. Ellis Lewis.

"Nov. 28th, 1844."

THE HISTORY OF LEPROSY.

Professor Virchow of Berlin has expressed his desire, in the document of which we subjoin a copy, to obtain certain information regarding leprosy. We hope that any of our readers who may be able will respond to Professor Virchow's appeal.

"It is now several months since I appealed to physicians, historians and travellers to assist me in composing a history of leprosy (*Lepra Arabum, Elephantiasis Græcorum*), and I must gratefully acknowledge having received very abundant contributions from many quarters. I have already published a portion of those observations which have especial reference to leprosy in Germany, in the 18th volume of my *Archives for Pathological Anatomy and Physiology, and for Clinical Medicine;* other communications are in the press, and will appear in the 19th volume of the *Archives*. Many other facts which relate to foreign countries, and to questions specially of medical, geographical, linguistic or civilisational interest, I must put aside for the present, on account of their too great bulk.

"Meanwhile, however, I cannot dispense with the continual assistance of other investigators, and since a personal correspondence cannot be carried on with unknown friends, I once more choose the way of publicity. If there is still any occasion to refer to the great importance of the subject, a glance at the excellent monograph, which Dr. Aug. Hirsch has published concerning leprosy in the second part, which has just appeared, of his *Manual of Historico-geographical Pathology*, will speedily bring conviction to the mind of everybody. A malady, which once pervaded the whole world, which even now attacks thousands in every quarter of the globe, and to the ravages of which the most ancient historical records bear witness, is certainly worthy of the most zealous study.

"I will now, first of all, beg leave to repeat the questions which I have already published:—

"A. Lazarettos (Leper-hospitals). 1. Do you know where there are any lazarettos still to be found? How old are they? How many patients do they receive? What are the regulations with respect to admission, and what is the plan followed in the administration of these establishments? 2. What places formerly possessed lazarettos? When were they founded? How large were they? What were their statutes? When were they turned to some other purpose, or suppressed?

"B. Leprosy. 1. Where does leprosy (*Lepra Arabum, Elephantiasis Græcorum, Spedalskhed*) occur? 2. Where did leprosy prevail? and when was it first, and when last, mentioned? 3. What forms of leprosy have been observed? (*Lepra tuberculosa, anæsthetica, mutilans, articulorum? Morphæa?*) Are any definite relations known to exist between morphæa and the other forms of lepra? 4. Does the disease occur endemically or sporadically? Is an increase or a decrease in the number of cases observed? 5. To what causes is the disease attributed? (*a*) Inheritance? (*b*) Contagion? (*c*) Climate? (humidity of atmosphere and soil?) (*d*) Food? (Fat? Fish? Salted, or what kind of fish?) 6. Is there any known treatment

for leprosy? 7. Are there any peculiar laws affecting lepers? Solitary confinement? Prohibition of marriage? 8. Are there any literary, private or official reports concerning the disease?

"In continuation, I would remark that there still remain several large gaps in the history of leprosy in Germany, that from Austria in particular scarcely any details have as yet been obtained with regard to the state of the lazarettos, and that with respect to what occurs in Westphalia, Hesse, Hanover, Oldenburg, Holstein and Eastern Prussia next to nothing is at present known. Is it not allowable to expect that in these countries also sufficient interest will be taken in a matter, which can only be settled by the cooperation of many, to enable us to obtain at least an approximate idea of the real state of things?

"The foundation of lazarettos (leper-hospitals) was essentially an ecclesiastical affair. It rested also in a great measure with the clergy whether lepers were admitted into these establishments and separated from the rest of the community. But to what extent this was their exclusive right, and especially what was the case in Germany, is still involved in great obscurity. For most authors have, by an illogical juxtaposition of what was separated by centuries and many countries, thrown the whole matter into confusion. With regard to Germany in particular it would be desirable that it should be accurately ascertained, whether the same ceremonial and the same religious ideas which obtained in France, for example, prevailed also amongst us. This might perhaps be determined in places, where there was a great concentration of ecclesiastical authority, as for example in Mayence, Cologne, and Trèves, if the archives, rituals, etc., were consulted. Questions are connected herewith which are of great importance in a civilizational point of view.

"Out of Germany, it is especially with regard to the Sclavonic countries that nearly all historical information is wanting. When, for example, Richter, in his *History of Medicine in Russia*, vol. i, p. 245, relates that leprosy first appeared in Russia in 1426, *i. e.*, at a time when it was already beginning to disappear elsewhere, this is in itself extremely improbable, but at the same time, if true, extremely valuable as regards the history of the disease. Everything therefore which is known with regard to Poland, Russia, Galicia, etc., offers twofold interest, because it at the same time involves one of the capital questions concerning the nature of the disease.

"Finally, with regard to the geographical distribution of leprosy at the present time, Hirsch and Mühry have already collected a large number of facts, yet even in this quarter there is still a great deal to be done. With respect to the interior of the continents, and especially Asia and Africa, we have scarcely any information, and even concerning China, where the disease is said to be so general, our knowledge is most superficial. From America too there is extreme difficulty in obtaining even official documents. In all these instances much might be done, not only by the agency of travellers, but also by means of diplomatic and commercial agents, of merchants and physicians. I only hope that every one will rest assured that any contributions, however small, will prove acceptable."

THE BRANDY TREATMENT IN ACUTE DISEASES. A London correspondent of the *Wiener Medicinische Wochenschrift*, No. 26, in treating of the prevalence of Dr. Todd's treatment of acute diseases in London, expresses his opinion that it might be introduced with great advantage in Germany; for, although practitioners are there beginning to learn not to enfeeble their patients by blood-letting, they do not administer support to the nervous power in acute disease; so that, while they do not do so much harm as heretofore, they still do not do so much good as they might do. He admits, however, that Todd carried his stimulant treatment somewhat too far, especially at the commencement of acute affections, when there is no loss of power. At a later stage, however, no doubt can exist that the systematic administration of alcohol is attended with the best consequences; alcohol being, in Todd's view, not a medicinal agent, but a nutritive aliment of the nervous system. In the convalescence stage of typhus, as well as in the second and third week of this disease, and in many cases of pneumonia, the systematic administration of brandy saves many a life. An anecdote, illustrative of this subject, is told by Skoda. A peasant suffering from pneumonia was given over by his attendant as hopeless. A notary was summoned to make his will, and many of his friends attended. While waiting for the official, some strong schnapps was passed round to the guests, and the dying man with feeble voice implored a glass from the well known bottle. A refusal to one doomed to death could not be given; but the patient, finding himself so much better after the first glass, speedily repeated so agreeable a medicine, which soon effected a recovery, in vain attempted by pill and potion. The correspondent adds, that the assistant-physicians of the London hospitals manifest a remarkable predilection for this brandy treatment, exhibiting it even when their seniors have expressly countermanded it. "I have known many cases in which one of the most distinguished hospital physicians, desirous of experimenting upon the treatment of typhus and pneumonia, has positively forbad a drop to be administered. The patient becoming worse towards evening, the assistant-physician has been sent for, and, finding the case urgent, after in vain trying camphor, musk, etc., gives the patient brandy at short intervals, preferring to save life to obeying the orders which have been left. The symptoms yield, the patient sleeps, and in the morning is 20 per cent. better. The physician arrives at nine in the morning, and proclaims the case to the pupils crowding around the bed as an example of the uselessness of the brandy treatment—not a single drop having been administered!" (*Medical Times and Gazette*, July 28th.)

ACTION FOR RECOVERY OF MEDICAL CHARGES. At the Liverpool County Court, on July 27th, Mr. Statter, a surgeon in Liverpool, claimed from Mr. Braham, the proprietor of the Star Hotel, £5, for twenty visits and consultations, charged at the rate of 5*s.* each. Mr. Grey, for the defendant, contended that the charge of 5*s.* for a surgical visit or consultation was unwarrantable, and not justified by custom; the practice of the medical profession in Liverpool being, he asserted, to charge 2*s.* 6*d.* for each visit, and never more than 3*s.* 6*d.* He added that, in the case of Lady de Grey, it had been held that a surgeon could not recover more than 2*s.* 6*d.* for a visit, besides extra charges for medicines. The defendant, on being examined, swore that on one occasion the plaintiff told him that his usual charge for a visit or consultation was 2*s.* 6*d.*, except for the first consultation or visit, when he charged more. The defendant further asserted that an excess of visits had been charged for. His Honour, on examining the plaintiff's ledger, found that many of the entries against the defendant had been altered from the original sum of 2*s.* 6*d.* per visit to 5*s.* By the original entries, previous to their alteration, the sum against the defendant was £2 15*s*; and consequently a verdict was entered for that amount.

THE GERMAN ASSOCIATION OF NATURALISTS AND MEDICAL PRACTITIONERS. The thirty-fifth meeting of this body, the original of the now numerous peripatetic philosophical societies, will be held this year at Königsberg, from September 16th to 22nd. Letters are to be addressed to Professors Rathke and Wittich, the managers.

ST. MARY'S HOSPITAL. The lecturers of St. Mary's Hospital Medical School, a few weeks ago, presented to their late Honorary Dean, Mr. Spencer Smith, a handsome inkstand, as a token of their gratitude to that gentleman, for his unwearied exertions in the cause of the school, from its first opening to the present time. On Saturday week, Mr. S. Smith received another gratifying token of good will from the students of the school, past and present, in the shape of a very beautiful piece of silver plate.

HEALTH OF LONDON—JULY 28TH, 1860.

[*From the Registrar-General's Report.*]

		Births.	Deaths.
During week	Boys.. 917 / Girls.. 868	1785 ..	975
Average of corresponding weeks 1850-9		1534 ..	1206

Among the causes of death were—bronchitis, 50; pneumonia, 41; phthisis, 133; small-pox, 7; scarlatina, 31; measles, 53; diphtheria, 4; hooping-cough, 30. The deaths from pulmonary diseases (exclusive of phthisis) were 106, being 21·1 above the corrected average.

Barometer:
Highest (Mon.) 29·50; lowest (Wed.) 29·86; mean 29·685.

Thermometer:
In sun—highest (Fri.) 118·0 degrees; lowest (Wed.) 83·0 degrees.
In shade—highest (Sun. & Fri.) 69·5 degs.; lowest (Thur.) 42·8 degs.
Mean—55·6 degrees; difference from mean of 43 yrs.—6·3 degrees.
Range—during week, 26·7 degrees; mean daily, 17·5 degrees.

Mean humidity of air (*saturation* = 100), 82.
Mean direction of wind, N.W. and S.W.—Rain in inches, 0·80.

TO CORRESPONDENTS.

Communications have been received from:—DR. LIONEL BEALE; DR. P. H. WILLIAMS; DR. GUY; MR. WALTON; DR. S. DREW; DR. J. T. VALE; DR. G. BUCHANAN; DR. INMAN; DR. R. T. WOODHOUSE; DR. SKINNER; MR. P. C. PRICE; MR. GEORGE ASHDOWN; DR. HITCHMAN; DR. D. MACLAGAN; MR. T. M. STONE; MR. JOSEPH HINTON; MR. DE LISLE ALLEN; DR. E. CARVER; DR. W. A. BRYDEN; and DR. T. O. WARD.